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**(28,082)**

**SUPREME COURT OF THE UNITED STATES.**

**OCTOBER TERM, 1921.**

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**No. 219.**

**THE CITY OF HOUSTON, APPELLANT,**

*vs.*

**SOUTHWESTERN BELL TELEPHONE COMPANY.**

**No. 220.**

**SOUTHWESTERN BELL TELEPHONE COMPANY,  
APPELLANT,**

*vs.*

**THE CITY OF HOUSTON ET AL.**

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**VOLUME III.**

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**APPEALS FROM THE DISTRICT COURT OF THE UNITED STATES FOR  
THE SOUTHERN DISTRICT OF TEXAS.**

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## No. 108. Equity.

SOUTHWESTERN BELL TELEPHONE COMPANY

versus

THE CITY OF HOUSTON et al.

TRANSCRIPT OF RECORD ON APPEAL FROM UNITED STATES DISTRICT  
COURT, SOUTHERN DISTRICT OF TEXAS, HOUSTON DIVISION.

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VOLUME III.

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2160 Mr. LAMAR LYNDON, a witness for the defendants, was  
sworn, and testified as follows:

Direct examination.

Questions by Mr. Howard:

The valuations that I have made for the City prior to the one that I made for the Telephone Company in 1918, were made prior to what is known as the World War. There have been radical  
2161 changes in the commercial world brought about by that war, of course, everybody knows that. Labor prices and material prices and all those things have undergone great changes, perhaps now even undergoing changes. Prior to that time there has been by the Commissions and among engineers two theories suggested, one known largely as the historical or original cost less depreciation, and the other known as the reproduction cost new less the cost of depreciation, that is building up at that time a theory a plant to take the place of the one in existence. Prior to the war there was no marked difference between these two methods. The fact that that is borne out by the value which I made here in Houston of the Electric and Power Company property. I made a valuation based on the original cost less depreciation and the company was dissatisfied with the findings, it not being enough, and it was the standard Public Utility objection to an engineer's finding, and they demanded a valuation based on reproduction and the municipality decided that in order to preserve peace and harmony that they would have a second report made on that basis, and it was made on that basis and most of the company's own figures of the then new costs were accepted and my present memory is that the variation was less than one  
2162 hundred thousand dollars on a property valuation of two million dollars, that is, we were so near together that there was

no question involved as to which was the better way, which was the fairer. In the valuation which I have made of this property and concerning which I propose testifying I have not given any serious consideration to the cost of reproducing this plant that was constructed, perhaps, at least 90 per cent of which was constructed prior to the abnormal changes in price level. I have not given any consideration to reproducing the property based upon these abrupt changes in prices, because a reproduction valuation is a basis that is inherently unstable,—the reproduction cost, and there is no opportunity to check the values against the value of the property; they fluctuate from month to month, or year to year. It means a specific condition for a public utility, while the conditions for certain public utilities, to my mind, and in my judgment should be stable ones. Furthermore the amount of money that is invested as I see it, is the amount to which the company is entitled to receive a return on.

\* \* \* \* \*

The fact that the material copper and poles and wire and switchboards, and central office equipment and the buildings and the land upon which the buildings stand may have enhanced for a while, or even permanently, does not render the service any better, it does not make it any better, so far as the service being rendered, that is there is no additional advantage to the public being furnished by the utility. Therefore, the values that they get, is just on the  
2163 enhancement of the quoted prices of the materials that are already in the building, or in the utility. Supposed it was conceded that they are entitled to the enhancement of these materials that is no way that I know of in which the utility could realize at this time on the enhancement. You see the property as an operating property has a value, which value is commensurate with its cost. If the property, if there is any attempt made to sell the property except as a whole operating property it, of course, becomes junk; the sale as a whole operating property, of course, is another matter, assuming there is a willing buyer, and it is then sold on the basis of what it might be able to produce from the public.

\* \* \* \* \*

"Q. Now, Mr. Lyndon, you have before you there the Hoag inventory. Suppose the city could have conceived the idea of getting up an inventory and applying these scaring prices, wild and erratic prices, to an inventory in trying to get at the question before the court here, and you were furnished the inventory, what would you do with it if we had called upon you with a view of getting a list of this property and apply these abnormal prices, would that inventory have satisfied you,—Would you assume practically that it was a correct inventory?"

2164 "A. Yes, I have been over many inventories of many public utilities, and I have yet to see one that is radically wrong; they are practically all reasonably correct."

"Q. So for the purpose of furnishing any such report here to the

court if it was thought at all helpful, would you consider that part of the work done, that is the inventory here?"

"A. I would be willing to accept it."

\* \* \* \* \*

I have a summary on the top of the first page of my Exhibit No. 1.

Mr. D. A. Frank: If Your Honor please, before we go further I desire to object to Mr. Lyndon's further testifying in this case as a valuation expert as he has not been properly qualified; he has not shown by his testimony that he knows anything about telephone properties. His testimony shows positively that he has never managed a telephone property. Never operated a telephone property; and never bought or sold a telephone property, and in fact, does not know anything about telephone property, and has stated that it is only necessary for a man to have a little mathematical knowledge and to be able to count to make an inventory, a valuation, 2165 and for that reason we object to his testimony, testifying at all unless he is first shown to be qualified.

The Master: The objection will be overruled.

Mr. D. A. Frank: Note our exception.

I have several telephone exchanges. I conducted, for the purchaser of a telephone exchange the valuation, being one of the firm of consulting engineers that have a staff of men doing the actual work. And when the papers came into the office, and it was deemed necessary to give them consideration it was done, and the money for the purchase was furnished by other people. All we got out of it was a very small fee. Mr. Frank is aware about of what sort of fees telephone service pays, and that's all we got out of it. Those properties were some properties in Pennsylvania and West Virginia. I think the largest property was a Pittsburgh property, Pittsburgh and Allegheny; and then one in Wheeling and one in Harrisburg. Let me see, this was in 1907, it is thirteen years ago, and the details and the names of the properties have escaped me, but in spite of Mr. Frank's view of the subject, I can only reiterate that the valuation of a public utility is not a high order of technical skill. I have had experience in valuing street railways and telephone. I have valued isolated electric plants; I have valued street railways; I have valued interurban railway properties; I have valued water powers; I have valued city lighting plants; and valued one 2166 bro-ze powder works once, which was 50 per cent of all bronze powder works in the United States, there being only two. There is not a bit of difference between the cement that goes into a traction company, and the cement that goes into a telephone company. The character of the installation of the wire, of course, differs in a telephone company from that of any other character of electrical distribution, but any competent electrical engineer understands these matters.

Mr. D. A. Frank: There is nothing mvsterious about it?

Mr. Lyndon: Not a bit. To a scientific man it is rather an open

book. I understand that from the beginning of this hearing the gentlemen have come in here with the idea that they are teaching a kindergarden, for instance, in a wire is strung on poles, they tell you that is a wire strung from one pole to another, and that it is fastened in a certain way, that if you dig a trench, you dig it with spades. I know all of those things, but I might find out something else; I hope to always.

I have been actually engaged in some very considerable construction work, and in many parts of the world. I am not limited in my experience to the United States at all. The nearest work to you is the dam which I built across the Colorado River, here at Austin Texas. The dam never did break. The dam is there yet, 2167 and it will be there four thousand years from now, longer, if the world lasts. What did break was the company, and that caused a great deal of tribulation, but no dam has ever broken, it is there yet. I was the consulting engineer on the whole works. The transmission lines, the whole generating equipment and that I may mention is the broadest form of engineering because it comprises masonry work, hydraulic control, pipe lines, water wheels, water wheel governors and speed control, dynamos, switch-boards, transformers, transmission lines and power station design, and includes the largest number of different branches of engineering application of any other type of construction. There is no connection between the breaking of the company and my engineering work on the dam, except that certain policies were pursued which were contrary to engineering advice repeated often, and backed by the prediction that disaster must follow if these policies were pursued. It was the fact that the contractors had no foresight and made no preparation for the work; they made contracts that did not mean anything with the people who afterwards didn't fulfill the obligations and then the contractors had to start new. That delayed construction until they got into the flood period of the river, and when they got into that period, why, the end was practically in sight. The first half of that dam was built in a single coffer dam, which never 2168 washed out; the last half of that dam took around five times as long to build and fourteen coffer dams washed out on them in that period. That was the cause of it. I was not the business manager for the construction company in any way. They did not meet our requirements and our requests and our protests.

\* \* \* \* \*

"Q. But, now, taking the item of interest during construction there, that'- got to be accounted for some way, hasn't it?"

"A. It is very definite; it is as definite as the cost of the apparatus or the construction, which must be accounted for."

\* \* \* \* \*

I did not allow anything for taxes during construction, where a plant is built "piece meal" that way, especially under the laws of Texas, where property not on hand on the first of January is not



taxed, I would hardly look to find any costs of taxes during construction. If I were operating a public utility I would not expect to pay any. I have not prepared a separate exhibit upon omissions and contingencies because there isn't any such thing.

\* \* \* \* \*

I valued this property by another method than the reproduction of 1914 plus the additions from 1914 to 1920. I took the  
2169 actual book cost of the property showing what it cost the company to purchase this plant here. The books being accepted throughout and in every detail except two instances which have been mentioned, one being the aerial wire figures and the other the Houston Home Telephone Company property.

\* \* \* \* \*

Adopting that method of handling the revenues and expenditures incurred here in order to finally arrive at a conclusion of the ultimate return on the property, unquestionably it will be necessary to allocate to the Houston Exchange a certain part of the long distance investment. I have not done that because it would be impossible to even approximate it. It would require a complete survey or a complete statement from the company. At any rate when I made this set-up the information was not available. In the chaotic condition of the records in trying to make an apportionment in handling these revenues and expenses I would have to look over the situation and from the percentage that the property here bore to the entire property, or from the returns out of the property here in the toll service, I had to make some allocations based on the capital account and allow interest on it. Now, let's take this next statement here. Statement of Revenues,—toll revenue. I mean by this,

“other expenses, general” and “other expenses not incurred  
2170 in Houston,” I mean by that allocated charges based on the general officers, or incurred by the general officers and then divided into some arbitrary proportion among the various officers of the Southwestern Company. The operating expenses here in the city and the maintenance expenses and all the other local expenses, including both the cost and maintenance and operating these local and these toll systems, are included in the company's annual statement of costs for Houston. This 25 per cent is simply an experimental figure to show what the result would be if 25 per cent were taken. It is the per cent that the company used, but I have taken other per cents to show what the condition would be. I do not know whether or not that 25 per cent would pay for the expense incurred in handling the long distance tolls by the local exchange. A series of approximations based on probable rational assumption could be made and a general idea obtained, which would simply be a general idea; it would not be an accurate statement of the costs incurred here because of the toll business, that is, we would know whether it was around 30 per cent, or around 50 per cent, but we wouldn't know whether it was 29½ or 32½ or 47½ per cent. We would determine



in a general way approximately what it might be. On the basis of 25 per cent, I am assured by the few computations that I have made, based on certain assumptions that the local company would be better off without any 25 per cent of the toll receipts if it could  
 2171 divorce itself absolutely from every cost and charge incurred because of the existence of the toll line. That is to say, interest maintenance, depreciation value and allocated charges and all the rest of them at 35 per cent, I am not sure. I think 35 per cent of the total toll receipts of this local exchange, I believe, would make a little profit, but at 25 per cent, there is no doubt in my mind, but what some loss is incurred by assuming all the cost and burden of the tolls with only a 25 per cent return.

The Master: If this was an independent company operating this local exchange here in the city of Houston, would it be to their advantage not to connect with the toll lines on that basis.

Mr. Lyndon: On that basis if they had to put an investment into toll apparatus, provide a building, and add the depreciation charges and operation that is true. I mean that on the basis of net returns, the long distance convenience to the public, I think the local exchange would far better financially if — was conducted as a separate enterprise,—on the basis of 25 per cent only. If that percentage is carried to 30 per cent, I believe, that it would be about even; If carried to 35 per cent I believe it would show a profit for the local exchange.

\* \* \* \* \*

2172 It has been brought out here that I have never operated a telephone company. Mr. Frank has referred to it at least once.

"Q. Mr. Lyndon, that being the case, could you from your knowledge and experience and familiarity with telephone companies and their operation come to any conclusion as to whether or not that was a high or low charge per station for the traffic expense incurred in operating a telephone company?"

Mr. D. A. Frank: I object to that because it shows the witness is not competent.

"A. I cannot make any statement of my own knowledge from the operation of a telephone system, and even if I had operated a telephone exchange system and ceased to operate it two years ago it would not be indicative now of what you would naturally expect in the case of traffic charges."

"Q. In other words, do I understand you to say, that the fact that the manager that is operating this plant here would come in and say it was most reasonable and the lowest charge that could possibly be brought about, you might think they were very much in error in their judgment and might be mistaken and that it would not  
 2173 necessarily be an established fact and to know, and my only basis for the statement which I now make is that—that is

that the charges appear excessive is a definite knowledge of the costs which one or two other companies——

Mr. D. A. Frank (interrupting): I object to any statement about what any other companies do and don't think this is relevant for two reasons. In the first place the witness shows he isn't competent to pass on traffic expenses,—doesn't know anything about it, and anything that he says about it would be purely hearsay. People who know anything about the telephone business would not get on the stand and criticize expenses in one exchange on the basis of the expenses in another exchange as so many things enter into the necessary cost of handling traffic that it is impossible for any man to get on the stand, even when he knows what has been done in another place and tell us what ought to be done. For instance, take the question of operator's salaries; suppose a man had operated an exchange the size of the plant in Houston, or in Dallas, or in St. Louis, or in Kansas City,—now, it may be that the cost of operators per day, or per week, or per month would be greater in Houston than the other place; it may be that the operators in Houston are less efficient than the operators in Dallas, or in Kansas City, or St. Louis, and it might be that the calling rate in the city of Houston, would be greater than the calling rate in any other town, and so the  
2174 witness ought not to be permitted, in all candor, to sit here and tell us what has been done in some other place, and it seems to me to be clearly prejudicial.

The Master: The objection is overruled.

Mr. D. A. Frank: Note the exception.

(By Mr. Howard:)

"Q. Mr. Lyndon, first, what goes to make up the traffic expenses, I assume you know?"

The Master: You needn't further qualify him I have overruled the objection.

(By Mr. Howard:)

"Q. Do you know anything about the elements that enter into traffic expenses?"

"A. Yes, of course, the principal,—the main, and, in fact, the governing elements are the wages paid the operators; that is so much the largest item that it almost fixes the cost of traffic. The wages paid operators of course, depend,—I mean the total sums of money paid operators depend on two things. The first is the wages paid and the next is the number of operators. Now, as to the wages paid, it is assumed that can not be escaped. We do not assume that the company is paying more for operators' wages than it is compelled to, but as to the efficiency of operation and the number of operators which may perform the service, that is a matter of  
2175 management, and possibly a matter of exchange management,—I mean arrangement in a small degree, and be that

as it may, we find by an investigation of the costs of other companies of various kinds located in various places that the traffic charges are not anything like as high as they are in Houston. Now, Mr. Frank states, and properly states, that traffic charges are, in a measure, a function of local conditions; you cannot reason that, because one company can operate on \$7.50 that another company in the same size town can also operate on \$7.50, but you can reason that if one company is operating on \$7.50 that another company of similar size that requires above \$14.00, that it is getting out of the bounds of relationship and it is only——

"Q. (Interrupting.) Now, in speaking of \$7.50, you are not assuming that as an arbitrary figure, but you know of companies in operation that their traffic expenses run around \$7.00 a station?"

"A. I know of a larger company where the cost of labor as I understood it to be in Houston——

Mr. D. A. Frank: What company is that?

"A. The Keystone."

Mr. D. A. Frank: Your Honor can you see the justness of our objection to detailing something about the Keystone when  
2176 interrogations, direct and cross, have been filed in this case to the Keystone Telephone Company, and their witness has refused to answer the questions; they could have proceeded to take them, but for some reason have failed to take them, giving us the reason that Mr. Stockwell refused to answer the questions. They did not proceed to make Mr. Stockwell answer the questions as they could have done, and now a man gets on the stand to tell us second-handed the one thing, that the traffic expense is lower there than here. I merely throw that out to Your Honor for your consideration.

\* \* \* \* \*

I have never built a telephone plant at any time since I graduated from the University of Georgia up to the present time. The nearest I have come to it is placing telephone equipment on long distance transmission lines, or patrolling the line. That was not laboratory work. You see I rehabilitated the Junita Water Power Company in Pennsylvania. If you have been from Pittsburgh to New York in the day time you have seen the *the* transmission line. I designed this and we had to have a telephone system to take care of the patrolling of the lines, and I worked out an arrangement at that time. We have one line of 40 miles to Altoona; the plant is at Warrior's Ridge, and the question at that time came up as to how the patrol should cut in at nearly any point,—at points not widely  
2177 separated and notify either end of the line as to what has necessary in case of failure of the transmission line. We only had one telephone circuit, just two wires, a metallic substance, No. 12 copper, and I worked on a scheme for contact. Placed on stubbs removed from the main poles and let the patrolman carry his telephone sack with him and plug in on the stubs. All we had to do was to run a wire from each circuit down to each stub and

fix a place to plug in, and have the proper instruments at the two ends. That is the only telephone construction that I recall just now. I never built a local exchange. Forty miles of circuit would not be a very big plant, I just put the circuit up on the frame poles with the transmission conductors. Practically all there was that was a few telephones and eighty miles of wire.

\* \* \* \* \*

As I said on direct examination it does not take an engineer to value property. I do not say that anybody that could use a pencil and count and multiply and add and divide and subtract would make an engineer, but I do say that he would be perfectly competent to make a valuation. I want to make clear this: that when I say that anyone can make a valuation, and an engineer is not required, I mean on a plant that has been built. Nobody but an engineer can make and lay out a plant and determine what it is going to cost to build it. But after it is already built anybody that can look over books and tell what brokerage costs, or anything else of that kind, can tell what the plant has cost. In case the book happens  
2178 to be destroyed, then, in that case, an inventory would be necessary. If there was an error in the books, why the error would show itself in the final conclusion, if the books were adhered to, but I would rather think there was an error in the inventory than an error in the books. I do not believe that I ever inspected the books of the light company, the gas company, the street railway company, or the telephone company, or the books of any company, personally. I have always had an accountant to do that. I do not do accounting work. Neither am I a lawyer, but I am an engineer. It appears to be incontroverted that the valuation work could be done by any person who has the qualifications I have detailed. If any business man had to be an expert in whatever he handled and get values on, he would never get anywhere. The manager of a department store would be practically unable to get anywhere if he had to be an expert in everything he handled. I have no means of knowing how many people there are in a town the size of Houston which probably has from one hundred and fifty to one hundred and sixty-five thousand people, that would meet the qualifications I have outlined for a valuation expert. How could I know? I don't know whether any school teacher could do it.—I don't know the qualifications of a school teacher. I will say this, Mr. Frank, that you could do it. Yes, most any school teacher can  
2179 add and subtract and multiply and divide, and if the valuation of the telephone company's property is made strictly on the books, I see no reason why he could not do it. Bank clerks and bookkeepers would be competent unquestionably, and even some lawyers would be competent. I should say that practically every engineer would be. There might be a few people in the city of Houston who would be competent to make this valuation, but I have no means of knowing. It would be logical to suppose that there are a thousand school teachers and bank clerks and lawyers in the City of Houston out of a population of one hundred and fifty

thousand, it would be logical to suppose that, yet I don't know that to be a fact. I cannot say when the City of Houston hired me and paid me \$100 a day and expenses to make a valuation here, that they were doing a very expensive job that might have been done very much cheaper. Your assumption of having been paid I think you had better omit. They paid me some that they owed me several years ago though. There is this: Engineers as I have explained before, were originall- in this field of valuation, and they have acquired a facility in making them that comes from having gone through it before, and that as far as I see is the only advantage, except that in case of disagreement between the engineer making the valuation, and the company, the engineer has sufficient reason that he can bring forward in an argument that the other man might not have, but as far as taking the books of the company and determining the value of the property, provided the ages of the

2180 apparatus and the rate of depreciation are known, which are obtainable from records and documents by anybody, I don't see that an engineer is an absolute necessity. The same thing would apply to taking a force of men and boys and going around and getting a physical inventory of the property and familiarizing themselves with catalogs, and getting prices and applying them, that is a thing of obvious simplicity, it is just as simple as running a department store and checking such goods and getting the prices. I don't know how simple running a department store is. What I am bringing out is it may require a great deal of tedious work, it may require a great deal of effort, and it is not any high intellectual obtainment. Certainly I would feel competent to take charge of any department store and run it, and also the Rice Hotel. Any engineer ought to be able to do those things. Also if you have trained men all around you to do the work, and they stay there and they keep doing the work, probably anybody could run a railroad. I think running a street car system is a very tedious and confining job, but there is nothing mysterious about it. Running a bank has always been a mysterious thing to me, I don't know how it has been done. They let out money on loans that don't seem to have any basis, and they decline loans that appear to be good. I would not say that running a bank requires a higher class of intelligence. Of course,

2181 these are merely my views and perfunctory, but I believe that as far as I have been able to see, bankers work on what is known in the street as "hunchy superstition." They are not scientific, not logical in any manner that I have been able to discover. I don't know much about running a college, but I think it would be a good easy job to run a college. As to running a plantation, that depends, if you have people to do the work, it is no trouble, but to work yourself, that is hard luck. A big plantation down on the Mississippi River, or down on the Brazos River in Texas, say five or ten thousand acres of good rich land, or any of the things you have mentioned would require attention and supervision on the part of the owner, or whoever was in charge of it. I think it would require some experience to run it, although you will find out that a number of people have the wrong idea and their experience merely fixes their

errors. We have seen that in a number of cases. I do not see that there is anything mysterious in running a telephone plant. Anybody could take charge of a telephone plant and in one month could run it if they had all the staff and people to do the necessary things, and the work to maintain it and keep it going. Certainly I feel competent to run a telephone plant. Any engineer could run a telephone plant if he had the staff already gathered about him and he could find in a very few days what he would have to do. Now,

2182 the staff that would actually do the work must have some experience. The man that directs the staff, has to have a little experience, of course, it would be helpful to him, but it is not necessarily so. We find that men who have gone in absolutely new on work have sometimes surpassed those who have been in it for years, and gotten into some definite rut. Most of the businesses or professions that I have mentioned are truly simple. I don't think that I quite make myself clear there, Mr. Frank. The idea is that a born numb-skull, who could not work, could not do any of those things. It takes some intelligence. It takes some intelligence and some higher education in fundamentals and a general character and a willingness to work continuously. With that, there is not one of the things that you have mentioned that a man could not make a success of and I am simply differentiating all that from really different intellectual processes of the originator of new things, and the changing of existing arts, not the maintenance of the art as it stands, but the moving of the art forward. It takes a little judgment in order to value a piece of property, it takes a little judgment to do anything. In order to determine what a piece of property is worth, on some basis of reproduction, he would have to use possibly a little judgment. If you take the book cost of the plant, which I, of course, regard as the value of it, I can't see where the exercise of judgment would be required. It may be, but I don't see it now.

2183 My understanding of the meaning of the word "Value" is as far as I can see it,—the word value is incapable of any one definite experience. For instance, the value of a piece of real estate, or the value of a suit of clothes would be fixed on two entirely different bases. If I was talking to a child six years old and trying to tell him what value is I would say it is the thing you have to pay for it, the amount you pay for it. I think I can clarify that. If you tell a child six years — what the value is, you would say the value of this is a dollar, because I had to pay a dollar for it, and that was the best price I could get for it. But if it was bought a year ago, say, "the value of this was about, but now it is not so valuable because it is practically worn out." If you would tell a child that the value is what it is worth, then where would the child be? The child would be just where it started, I don't know whether a child learns worth before it learns value, I am hardly an expert, but I do not believe so.

"Q. Doesn't the boys say this ball is worth a nickel and this marble is worth a nickel, doesn't he learn that early in his life, hear his father say that cotton is worth 40 cents a pound and chickens are worth fifty cents a piece?"



Mr. Howard: Is that among your employments in any of these years, kindergarden work?

2184 Mr. Lyndon: Not professionally.

Mr. D. A. Frank: Don't think that would be a simple way of telling the child?

Mr. Lyndon: I don't know. Even then it would be a matter of my own personal knowledge. It is quite possible that the child learns the word "worth" before it learns the word "value." It seems logical as to what you have said there that that would be the case.

That is the way most of men's minds determine the word "value." When you speak about "value" ordinarily, you think of what anything is worth. That seems logical and it sounds true. With reference to whether a man would be able to tell unless he had some judgment, what a thing is worth, even when he knew what the book said, well, he would naturally assume that what the books said were true and that is what it was worth, less, of course, whatever period of use it has passed through.

Suppose a man has a building here and he has some books that showed the building was worth one hundred thousand dollars, that is, showed that the building cost one hundred thousand dollars, and built on a lot worth \$25,000.00 and I looked at his books and from the books I would think that the building and lot was worth \$125,000.00, and say it was constructed a very short while ago, but last

2185 night there has been a fire which burned this building down, I would say that the worth of the building was its original cost, less its reduction in value, which it had sustained. If the reduction in value was 100 per cent, then the building would be zero. I should say that the books would tell exactly what its worth would be, with whatever reduction in value it has sustained.

\* \* \* \* \*

To take the cost of telephone company equipment as shown by the company's books, requires no telephone experience whatever to make a valuation; even a reproduction valuation after the work has been constructed, requires only a small amount of knowledge in order to cover the construction costs. They would have to be really assumed and the construction costs are usually known from the books previously kept and by the application of a percentage showing the rise in price of labor from the date that the labor was actually done to the date the reproduction value was made; it can be very closely approximated, and on the production value it is nothing but an approximation after all, it is not difficult. Whether you would have to know something about it in order to pass judgment on a piece of telephone property depends upon what factor the judgment is to be exercised concerning. To exercise judgment as to the character of the work, or the degree of the excellence with which it is done, naturally requires some knowledge of the business, but we are going on the assumption that the money was honestly spent and

2186 the company is entitled to a return on it regardless of the character of the equipment within reasonable limitations, but as long as it is an operating telephone company, and as long as we

assume that the money is honestly and reasonably spent there is no place where I can see that the exercise of experience and knowledge in the telephone business would make a difference in the valuation which might be reached.

This thing that you hand me looks like an induction coil, and these other two look like transmitter and receiver. Now, I will take off all parts that I understand the American Company does not furnish. We ought to have a mechanic on this job. To save time I will tell you what parts I am going to take off, I am going to take off the front and shell and take out simply the transmitter itself containing the diaphragm and carbon chamber, and the carbon electrodes, and I believe the back bridge is a part of the——

Mr. J. D. Frank (interrupting): Mr. Hoag will do that and save you the time. While Mr. Hoag is working on that for you, take the other. You can take that apart by hand.

This has external screws. This that I have in my hand is the magnet portion of the receiver. I understand that this portion that I hold in my hand is furnished by the American Telephone 2187 Company. I am not sure about the end piece that the diaphragm rests on, but my impression is that this whole piece is furnished by the American Telephone & Telegraph Company. I do not know how many different pieces there are in the parts that I hold in my hand. I don't know how many different pieces there are but just to humor you let's tabulate them. There is some where between twenty and thirty parts, that is the receiver. Now, taking the transmitter, it is my understanding that the American Telephone & Telegraph Company furnishes all of that except this front plate, that is, exclusive of the shell. I take off the shell and front plate, that is my understanding. This inner piece I regard as a portion of the shell, in other words the entire electrical apparatus and the back bridge is the apparatus that I understand that the American Telephone & Telegraph Company furnishes. In order to tell how many of the different parts of that that the American Company furnishes, they would have to be counted, but there is a considerable number of parts in the carbon chamber. Counting the carbon chamber as one part I should approximate it at somewhere between 20 and 30 parts that are furnished by the American Telephone & Telegraph Company. There are more parts to that than the other, possibly. The two parts together are not supposed to have somewhere between 75 and 100 parts unless you consider each screw,—you often get 100 screws in a little box, and in that manner there may be many parts.

2188 I did not mean to testify yesterday that these transmitters and receivers are turned out for ten cents a piece, and turned out like a box of tacks. I said that the parts were turned out rapidly, automatically, and classified under what is known in mechanical art as duplicating work. They are turned out automatically. They have to be assembled. In my set-up I have gone on the assumption that all that is furnished is the parts that I have indicated there, the transmitter, the receiver and induction coil. If I was informed that I had not pointed out all that is furnished by



the American Telephone & Telegraph Company I would not revise my figures, because my figures are based on the statement of costs by the American Telephone & Telegraph Company in its annual report. I would, as I have stated before, I have never made an estimate of the cost of manufacturing these articles; it has been my understanding that these portions that I have indicated are furnished, and if more are furnished it simply means that I have been mistaken in my assumption as to the parts that were furnished, but not as to their cost. I mean as to the book set-up of the American Telephone & Telegraph Company as to that cost to them.

I don't know that that was a rather indefinite way to arrive at it. It is apparently borne out by the fact that we get the same prices from other manufacturers and got the costs of one telephone company for the same character of apparatus as was furnished by the American Telephone & Telegraph Company in 1918. I think at the time this 1918 report was made all these prices about checked with the 270 which I have made and is the basis of computation. I had not gotten any prices since. No definite prices recently. Now, Mr. Kelsey informed — that these parts were worth about three dollars and a quarter now. I am just telling you where the information came from. I have no means of knowing what the induction coil is worth, and do not know what I could buy that for from the Kellogg people, I have no idea. If I had one dis-assembled and could measure the quantities of material and see exactly the total of material I could tell you about what it could be made for in the factory, for labor and material, but not what it sold for. A local telephone company is not a manufacturer, and if it were a separate company it would have to buy them in the open market. If the market today is one dollar for the induction coil, the Southwestern Telephone Company would have to pay a dollar for it,—it would if that was the least market price obtainable. And if the subscriber's set transmitter was priced by the Kellogg people at \$2.00, the Southwestern people would have to pay \$2.00 if they wanted to buy it if that was the best place for the purchase, and the lowest price which would be obtained, they would be compelled to pay that regardless of the cost. If \$2.00 was the best market price, and if it was the only source of supply, that is the Kellogg Company, the Southwestern Company would have to pay \$2.00 for it if they wanted to buy it. That is true. So that, the three of them would come to \$5.00 from the Kellogg people, if those are the Kellogg quotations.

\* \* \* \* \*

"Q. Your idea is that in making an inventory and appraisal all that a man would need to know would be the ability to count, and then the ability of multiplying?"

"A. And the ability to obtain the proper prices from the manufacturer."

\* \* \* \* \*

(By Mr. D. A. Frank:)

"Q. Now, any telephone engineer would have an idea as soon as he saw any of this as to what it is?"

"A. If he had been in construction work."

"Q. Just like you would about matters of batteries and matters of power and generators and things of that kind, you would have an idea at once as to what the market value of such instruments would be, wouldn't you?"

"A. I would have an idea of what they were at that one time, but with the changes that are going on, I would be at a loss on probably anything now. You can't tell."

\* \* \* \* \*

2191 As I have stated I have never operated a telephone plant at all. In some of my reports I have criticized your traffic expense, and advised you how you could cut down your traffic expense. I said that your traffic expenses are too high, true, they are. If I could tell you what is the matter with your traffic expenses, and what I would do if I were operating the Southwestern Telegraph & Telephone Company, that would call for consulting engineering advice without a fee, Mr. Frank.

"Q. Now, you say Mr. Lyndon, that calls for consulting engineering advice without a fee. Now, you are on the stand and you set yourself up here as a critic of our traffic. Now, I would like for you to tell us how to cut down the cost?"

"A. I would have made the suggestion at the time. I felt that the people who were best able to modify traffic costs were people that were immediately concerned. However, the fact that they do know their business, and were in charge of the company did not necessarily carry with it the assumption that they were operating at the least possible cost, and the reason why I criticized the traffic cost was due to the fact, as I stated before, that I found the traffic cost on larger systems where wages were equally as high, very much less, not 5 per cent less or 10 per cent less, but 40 per cent less. I am now talking about the Keystone Telephone Company in Philadelphia. The Keystone Telephone Company has 40,000 lines,

2192 and I understand it as against Houston's twenty-six or twenty-seven thousand. It is not a fact that the Keystone Telephone Company operates in the down-town section mainly,—it supplies Germantown. I do not know how many stations there are in Germantown. I know Germantown itself is around three hundred thousand people, it is a suburban district. It is quite possible that there are over two hundred thousand Bell telephones that supply the same territory that less than forty thousand telephones supply. In order for me to answer if it is a well known fact that whenever there is one telephone plant five times as big as the other that it always carries the load of the town and that the one with the small plant has a very small load, you would have to define "load." There are three or four understandings of the word "load." If you

mean the traffic load, it is a very logical assumption, but the small company carries a small load and the large company carries a large load. I do not know that the traffic of the Keystone Telephone Company is less than one-third of what it is in the Houston Telephone plant. I think I have some data on that that I would rather refer to before I make any definite statement, but I feel perfectly sure that that is in error, that they have three times the traffic load in Houston that they have over the Keystone lines, I think is in error.

2193 I have the record here of the book account showing what the traffic load is in Houston, the number of calls, and the total, we also have, I think the maximum traffic of the maximum hour in any one day. I cannot guess at it because I am a poor guesser. I know that it is over five and under fifty. I do not remember what the traffic is in Houston. Any telephone man would know if he looked it up and then he might forget it. The data is on record, there isn't any question about that. The number of calls per station run from 8.2 to 9.2, varying with different seasons of the year. This is the number of calls per station. It was 9 in January, it was 8.9 in February, 8.7 in March, 8.2 in April, which was the lowest period, and went along to 9.2 in November, this is 1919. I understand that load to be above the average load. It is really a very high load so far as I know, not having had experience in traffic and strictly dependent on statements in standard works on the subject. When I say standard works, I am thinking principally of Miller, McMean & Miller's book on Telephony, which is one very well written work and there are some books that are put out by the Scranton Schools. I could not say how much traffic there is there in that first book that I mentioned. I would not say that there is no traffic in there at all, but might introduce the work and discover. It is a very large book, I should judge it weighs five pounds. If there is any traffic in that I will tell you the next time

I am on the stand. I have obtained some information concerning the telephone business from various sources, just as we obtained knowledge of the mechanical arts. There is also a section on Telephony in Perler's Hand Book that I have read; there is a section on Telephony in Foster's Hand Book. I think it is thirty or forty pages, I do not remember. Then there is a small hand book,—I can't remember the name of the man but it is a fairly good work, but it has got occasional data in that. I do not know that anybody has ever written a book on telephone service.

\* \* \* \* \*

I think it would be a simple matter of division to calculate how many calls are being handled by the Houston operators per day, but I have never done it. It may be that the calculation is already made. We will have to make an assumption which seems logical that the greatest number of operators are in service at the busy hours; that seems a logical assumption. I have no hourly report here showing exactly how many are on for each hour, it is at intervals, from two to three hours. We have a number of operators

on at that hour, but does not state what the busy hour is. I think it is a fair assumption that the greatest number of operators are giving service at the period of the busy hour. It is rational. 2195 It certainly ought to be done. You don't have to have any experience in telephone traffic to reach that conclusion any way.

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The proper way to get it for any period of time would be to take the calls in their period of time and the number of operators that made the calls in that period of time and divide the one by the other. It's the only logical and mathematical way to ascertain it. The call is the unit of service as I understand it.

\* \* \* \* \*

In order to be perfectly fair to the telephone girls the way to do is to take the number of trunk calls and add them, and add them to the flat calls and divide the total by the number of operators. The process I was engaged on here was to take the number of untrunked, double the number of trunk calls, and add that double number to the untrunked calls and then the total number of operations as indicative of the number of connections. Of course, the trunking of a call does not call for twice as much labor as the straight call on the one multiple.

\* \* \* \* \*

I understand that two hundred calls per hour is near the 2196 top limit for the girl to handle in one hour, an extra good operator. I did not know that the girls in Houston, many of them handle 250 calls per hour. I didn't know that and I don't think that that is borne out. If it is it has been a certain spurt, it is not a usual thing, because it is not borne out by the traffic data that you have. When a girl is handling 200 calls an hour during the busy hour, it is necessary that she is occupying one position,—I judge so, and if the number comes to the position that is further away she has got to pass the cord or get up and let the other take it. Now, if the other two girls, one on each side is on duty she has got to reach very much further, and she cannot possibly handle as many calls when she reaches further than she does when the cords are right before her. If the limit of her capacity is reached during the busy hour, she cannot surpass that at any other hour and any other condition, that is obvious. You know when the maximum capability of anything is reached, you cannot go beyond that, I do not know what the average number of calls are that are handled by the operators in the city of Houston, nor do I remember what Mr. Kelsey testified as to that. I do not remember what he testified the calling rate was in Cleveland, I do not remember what those figures were at all. Even if I heard them I don't remember now.

2197 Possibly he did testify that the calling rate, not the calling rate, but the number of calls handled by the operators at Cleveland ranged from 300 to 475 and that on the basis he calculated the girls in Houston were handling about 600 calls per day. I remember that he said that the rate of calling at Cleveland was extremely low, and that it was something that should be changed or revised, and that they were doing better in Houston, but still, I do remember this figure he said a girl should manage to handle around 900 to 1,000 calls per day. It would surprise me to know that the girls in Houston on an average are handling more than 1,000 calls a day, and it would indicate a recent and extraordinary improvement. If the figures that I have got in my hand will show that they are handling over a thousand calls per day it would surprise me. I have not taken any pains to try to find out from your traffic people just what the girls are handling.

\* \* \* \* \*

There are other factors of course outside of your station that enter into whether your traffic expenses are high or low. The wages would be another factor, the pay and the number of calls that are sent in would be the predominating factor. It should come down to cost per call, not cost per station. It is true that telephone traffic is the telephone calls.

\* \* \* \* \*

2198 I don't know what the average time is now of answering a telephone call; the average time was taken here in Houston at the time that report was written and given to me from data; I don't know that it was given to me personally; it was given to either Johnson or Ebersole, or someone of the men that were on the job.

I was building a dam at Austin at the time, and it was necessary to have some assistance on the work and it was desirable from the point of financial savings. The matter of how long it ought to take to answer a call depends upon the operatives entirely that you have. But I see no reason if they are experienced operatives and willing to work, I see no reason why it should exceed somewhere between four and two sixths seconds. I determine that by statements that I have obtained from various sources. I don't know whether I read it in an encyclopedia, or whether some experienced traffic man informed me, or whether I was told by several traffic men what their experience has been. It was just some engineering knowledge that I had acquired in the usual fashion of getting other men's experience. I have no knowledge of what the average time of answering a call was when telephones first started, I have no idea.

"Q. The evidence in this case shows it was fifteen minutes. The evidence in the case shows that the instructions, written in-  
2199 structions to the user of the telephone was "if you don't get an answer in fifteen minutes, not to be impatient, we are doing the best we can". Now, we have got it down to between four and six seconds?"

"A. As to what good practice should be, not as actual results that we have experienced."

\* \* \* \* \*

I have never heard of a plug count. I only know of a peg count. I don't know that I have ever heard of a plug count. I don't know specifically; I can grasp what it probably is, but I don't know specifically what it is, and how you employ it. Certainly a telephone expert would know what a plug count is. He would know what these little fuses are.

\* \* \* \* \*

In 1914 in my report I adopted the reproduction theory, but in this case I abandoned the reproduction theory, and I abandon it,—I think the statement is made in the report and I will be glad to quote from it. On page 51 of the 1918 report, we are discussing under the theory of cost reproduction: "Having shown the fallacy of this theory, the question arises why did Lyndon & Elrod apparently use the cost of reproduction theory to determine the value of the Telephone Company's property in 1914, if they now consider it an improper method." There are several reasons for this seeming change in opinion. In the first place we never did believe in any other theory than that of actual cost and so stated plainly in our report of 1914, see page 56. Prior to making a report of the telephone company's property, we had made a report on the Houston Lighting & Power Company, and in this later report adopted the actual cost method of valuation. The Light & Power Company officials made the usual and customary objections to the valuation of their equipment and requested a new valuation based on reproduction cost be made. The City of Houston, engaged us to re-appraise the plant on this basis and this we did. Our own views did not enter into this second appraisal of the the Lighting & Power Company's property. We merely performed the duty for which we were specifically engaged. When the second appraisal was complete, we found that it varied so little from the actual cost value that there was nothing to be gained by either side, adhering to either theory as cost had remained substantially constant.

It was the view of the city authorities, and their legal advisors that the Court at that time favored the reproduction value theory, and, in order to be on the safe side, they preferred valuations made and rates fixed, on the cost of reproduction basis, especially as the results were the same, no matter which method might be adopted.

Acting under these instructions and conditions, we made subsequent reports on the two telephone companies, and the Houston Gas Company.

While we apparently based the valuation of the properties on cost of reproduction, we found, in actually making the appraisal, that the installation costs were the more accurate in nearly every instance. Furthermore, it was fully understood between ourselves and the officials of the telephone company that the more satisfactory figures, both for the company and for the city, were the actual cost prices,



which we used for nearly all the items. Statements to this effect will be noted in various places in our report of 1914." (Which purports to be a reproduction cost report.)

"We started with the intention of basing the plant value on the cost of reproduction theory, because we were asked to do so by our client, the City of Houston. We did this as far as we were able to with any degree of accuracy, but, as stated, we were obliged to rely on actual cost figures for the greater part of the plant. By attempting to follow out the cost of reproduction theory, however, we did not accept this method as fundamentally correct. We know that it gave the same results as the other rational method, and thereby forms a satisfactory basis for the establishment of just and proper rates for service, which was the whole object to be achieved."

2202 "Q. Now, just now you read from page 51 of your report, this language, "In the first place, we never did believe in any other theory than that of actual cost and so stated plainly in our report of 1914 (see page 56)." Now, turning to page 56, of your 1914 report and reading that language, read what the language says.

"A. The first method of valuation, namely, actual cost less depreciation, is favored by engineers and public service commissions. This method, however, has not the sanction of the Courts. The decisions of the United — Supreme Court, which is the final tribunal in America, are that the value of the public utility for rate making purposes, is the reproduction cost, less accrued depreciation."

"Q. It doesn't sound exactly like the quotation?"

"A. It is a question of what I stated myself. I said the first method of valuation, namely, actual cost less depreciation, is favored by engineers and public service commissions, and we say that the Supreme Court has made decisions based on the reproduction theory."

Mr. Howard: You are in error in that.

Well, I was in error at the time, but the error came in this way. When the first report was made on the actual cost basis, it was then that Mayor Campbell and I think Mr. Hutcheson said that

2203 we would have to have a report made on the cost of reproduction basis, because the Supreme Court favored that method. I went no further. I was simply instructed to do a certain thing, and I did it. Judge Hutcheson told me that. That was when he was city attorney, and I regard him as a good lawyer. He unquestionably stands high as a lawyer in this community. As I understand, his views at the time he himself thought that actual cost was the appropriate thing, but there was no use in attempting to enforce something that would be more troublesome to enforce when the same result was achieved by an easier method. I know nothing about whether the Supreme Court has changed since 1914. I have been told by competent lawyers that the Supreme Court never did adopt a reproduction theory as a final and only factor.

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In my judgment the way to arrive at the valuation is the book costs, the actual costs incurred for the property then in service of the public with such reductions that had accrued from increasing age, use and wear of the plant. I think there are a thousand different people in the city of Houston who, if they took the same view as I take, and could make the same computation and had the same data they would reach the same answer. I do not think there  
 2204 would be room for the exercise of an independent and intelligent judgment. If there should be it would not be in any vital matter. I don't recognize the necessity of any judgment further than to take care of such matters as I have pointed out, where I made departures from the book in the valuations that I made. That is to say, if the books show a million four hundred thousand dollars paid for a property that cost six hundred and sixty thousand, or several hundred thousand say, then the operation of judgment as to whether the seven hundred and twenty three thousand dollars was a fair addition to capital account might arrive, but it seems to me it would take a very trivial amount of judgment to settle that question.

\* \* \* \* \*

I have made no attempt to find the reproduction cost of this property, and the figures that I have outlined have been merely the figures as I have adjusted them to show what I call the cost value,—one set of figures comes in that classification; there is another set which you might call a mixed valuation; that is the one in which the company's reproduction figures for 1914 were taken and the book costs adjusted from that date to now,—added to them. If I were to take  
 2205 the property now and attempt to apply unit costs as of present day prices, to the property, I understand it would be considerably more than the figures I have given. I have not attempted to do that, but feel perfectly assured that it would be considerably more.

\* \* \* \* \*

Now, if I were to make an appraisal today on the physical property based on the average of 1918-1919 prices and apply them to the same inventory that Mr. Hoag used, possibly I would come out at the same place that Mr. Hoag came out. It would be a mathematical computation if the same unit prices were used, I would have to come out at exactly the same thing. I would get the same figure Mr. Topping got if I used the unit costs that he used. I would necessarily come out at the same place.

I have Exhibit No. 1 before me. I have taken the reproduction value in 1914 of two million eighty thousand nine hundred and thirty-five dollars, and to that I have added the additions from 1914 to 1920 with such corrections as I have pointed out, other than the exact book figures. If I were to undertake to find the reproduction cost of the property today, of the physical property, I would expect the two million dollars to be raised considerably. I would not expect any great increase in the one million four hundred twenty-seven



thousand dollar item. The cost is made up of two items; one  
 2206 is the property in place in 1914 and the reproduction value  
 at that time, and if those items were reproduced today they  
 unquestionably would cost a good deal more than two million dol-  
 lars. I should say conservatively that it would be not less than three  
 million, how much more I am not sure without a computation.  
 The other item is \$1,227,000.00 which arises from the additions  
 made from 1914 to the present time, or to 1920. Now, if those items  
 were reproduced, the price would be increased some, but not any-  
 thing like the same proposition, because a great deal of that expense  
 was experienced during the period of high prices. The period of  
 high prices began about 1915, if I remember correctly. Of course a  
 large part of this million and four hundred and twenty-seven thou-  
 sand dollars is the purchase of the Houston Home Telephone prop-  
 erty, not new additions. I covered the data as to exactly how much  
 separately. It has been included. You will find it in a number of  
 the tables and exhibits too. Two values for 1915, and one of those  
 values is for the addition made by the telephone company as new,  
 and the other value is for the property taken over by the Houston  
 Home Telephone Company, so I have not got those separated, but I  
 should say around five hundred thousand dollars, between five and  
 six hundred thousand dollars, would be the amount which would  
 leave about eight hundred twenty-seven thousand dollars, or around  
 that roughly as the additions made, exclusive of the Houston  
 2207 Home Telephone Company from 1914 to 1920.

\* \* \* \* \*

Page 2 of Exhibit No. 2 shows what life I assume the various  
 pieces of property. That is in percentage. The reciprocal of that,  
 of course, is the life tables,  $2\frac{1}{2}\%$  means forty years. That is, I  
 assume that the buildings will last forty years. The Central office  
 equipment  $12\frac{1}{2}$  years and the sub-stations the same. Toll lines the  
 same. Aerial cables 33 years. The aerial terminals and miscel-  
 -aneous,—I understand that the exchange apparatus in all public  
 utilities while theoretically should go into depreciation, is carried in  
 the maintenance account. That is not an assumption, but the I. C.  
 C. rules allow it. If everything that you charge is chargeable to  
 the depreciation, I am unable to understand how the high main-  
 tenance report arrives. Page 56, paragraph 21, "Repairs Defined"  
 reads "Repairs as used in the text of the various operating expense  
 accounts, includes ordinary and extraordinary repairs. Ordinary  
 repairs include:

(a) Testing for, locating, and clearing crosses, breaks, grounds,  
 and other line troubles, including routine work, intended to prevent  
 such troubles, as for example, pulling up slack, tightening guys and  
 resetting guy stubs, trimming trees, straightening poles and cross  
 arms, and cleaning and adjusting apparatus;

2208 (b) Replacements of minor or short-lived parts of struc-  
 ture, equipment or facilities;

(c) Replacements of minor parts of wire plant or equipment—

I should define a minor part as one that failed to be a major part, by reason of its size or its value. As to drawing a line between the minor and the major I judge that would have to be a matter of figures for the particular accountants. Suppose a thing cost \$10 off-hand, I would call it a minor part.

Mr. D. A. Frank: Well, the Interstate Commerce Commission calls it major.

There is then, a statement to that effect in here too, which I can insert. "Made necessary by reason of faulty judgments, excessive strains, mechanical injuries, or other minor casualties, not provided against in the charge for depreciation of plant and equipment;

(d) Rearrangements and changes in location of plant, except subscribers' station equipment (for which a special account is provided). This includes rearrangements of circuits, reassociation of party lines, rearranging grouping of trunks and calling circuits, re-cross connection on distributing frames, rerunning jumper wires, underlining switch-board jacks, etc., together with materials used for such purposes which do not add to the tangible value of 2209 such plant;"

Extraordinary repairs include:

(a) Restoring to an efficient or proper condition buildings, structures, or other units of property which have deteriorated;

(b) Substituting in order to maintain normal efficiency, new parts for old parts of continuous structure, such as pole lines, cables, wires, conduits, etc., where such substitutions do not amount to a practical replacement of any considerable length of such continuous structures."

I don't know to what account you charge extraordinary repairs, I was just reading what the Interstate Commerce Commission says.

I did not take any percentage on any life table for aerial terminals because it is charged up to maintenance. To substantiate that I will just start and say on page 66 there is a broad heading which says "Instructions Pertaining to Operating Expense Accounts." Then page 21 is "Repairs defined," which I have already pointed out, and it says that this includes ordinary and extraordinary expenses.

"Q. Well, depreciation is an expense isn't it?"

"A. And the pole lines, cable wires, conduits, etc."

"Q. You think it is included in "and so forth"?"

"A. That is specifically mentioned, small parts of cable terminals or any other small parts, it simply says minor parts, any minor parts.

2210 "Q. Is an aerial terminal a minor part?"

"A. An aerial terminal all by itself may not be a minor part but some of its parts are minor parts."

"Q. But the aerial terminal is what we are talking about."

"A. The whole thing."

"Q. Yes, now where have you found in there, that it is charged to maintenance?"

"A. Well, there is no specific mention of that nor anything except a few general statements. I simply wanted to point out that minor repairs——"

\* \* \* \* \*

"Q. Now, get down and tell us what a minor part is?"

"A. A minor part is a part which related to the whole represents a very small investment, is what I would say as an immediate definition."

"Q. Where would the line be drawn?"

"A. I doubt if it is drawn at the same point in different companies, it may be drawn at totally different points. There may be some lee-way of judgment allowed in there."

"Q. Is a \$2.50 shovel a minor part?"

"A. I should say that a \$2.50 shovel is a part of tools. If you lost one, it would be a minor part, it would come under the head of majors."

2211 "Q. You think and believe anything in here that you say would cost \$2.50, in your 1914 report, is that a minor part or a major part?"

"A. That is a part that comes under the head of maintenance. If you repair two, three or four of them, if you repair one hundred of them, it would come under depreciation."

"Q. How many poles would you have to put in to be a minor part?"

"A. I don't know."

"Q. Would four poles be a minor part?"

"A. Four poles would come in at once as a repair, it would probably be, and written in the maintenance account. It depends on the accountant, the way his principle felt about it. I have not defined it to you and you have not given me a basis to reach a definition."

"Q. Well, how long? You are on the stand, I am not, I am a lawyer. You are on the stand, you are an engineer and you ought to be able to tell us what a minor part is and what a major part is?"

Mr. Howard: It is not a matter of valuation; it is a matter of segregating and classifying accounts.

"A. I have stated and state again that it is not definitely fixed. There is an element of allowance for the possible specific conditions under which any utility may operate and for the exercise for some latitude and judgment by the accountant."

2212 "Q. But, Mr. Lyndon, if we have the charging to our reserve for replacement every time we send out and put in one pole, you think we have been sleeping on our rights then, we could charge that to maintenance."

"A. I not only think you slept, but I am certainly under the impression that you have been doing it."

"Q. Well, we have not."

Mr. Howard: If Your Honor please, Mr. Frank, made a statement a while ago that the \$10.00 is not a minor part. I don't accept Mr. Frank's statement and I ask that that be stricken from the record.

"Q. Would you be surprised Mr. Lyndon, to know that the Interstate Commerce Commission has distinctly ruled that one telephone pole would have to be charged to depreciation and not to maintenance."

"A. I would be surprised to know that and I would furthermore wonder why it had made such a ruling in regard to telephone companies and apparently had not with regard to traction companies.

\* \* \* \* \*

"Q. So that you put down nothing for an annual rate for reserve for replacements of terminals in miscellaneous on the theory that that goes into maintenance expense, is that true?"

2213 "A. That a portion of it would and other portion would be comfortably covered by the three per cent."

"Q. Pure iron wire, what is the life of pure iron wire?"

"A. The life of pure iron wire is very short. I think possibly—well, you are now speaking of aerial wire?"

"Q. Yes, aerial wire?"

"A. Now I ought to have that report here to show you."

"Q. What report is that Mr. Lyndon?"

"A. That 1918 report, that six per cent was reached, we recognize that aerial wires have a short life."

"Q. Here it is?"

"A. About 30 per cent of this wire is drop wire, of which the cost of replacement or changes is divided into approximately 80 per cent labor and 20 per cent material. The 80 per cent labor is charged to maintenance, and the 20 per cent material cost is charged to depreciation, which latter charge is therefore 20 per cent and 12½ per cent which is 2½ per cent of the cost of new drop wires. However we are allowing depreciation of three per cent on the cost of new value, we are taking a depreciation of 50 per cent per annum other than drop wires. This just doubled the value used in 1914. The net life of the wire, is, therefore, taken as 16.06 years, that is to say, we have separated the drop wires, the short lived but frequently removed and changed drop wires from the actual pole conductor." 2214

"Q. So that if you did take the pure iron wire by itself, you would assume a very much longer life for it, than you do when you include the drop wires?"

"A. The pure iron wire used as conductors and put in with the rest of the aerial wires was given a sixteen and two-thirds year life."

"Q. But the other is——"

"A. (Interrupting.) The drop wires are given practically 20 per cent depreciation or a five year life, but the depreciation on the total cost of the drop wires includes depreciation on the material plus the depreciation on the labor, and therefore, if the figure is to be applied to both of those things it must be less than the actual depreciation on the material taken alone. That is clear, is it not?"

"Q. Yes, that is clear."

"A. Now, we have been informed that 80 per cent of the cost of the drop wires in place is labor, 20 per cent material, and in that—we have taken three per cent on one hundred per cent, which is fifteen per cent on twenty per cent—no, I was wrong about a five year life. It is a six and two thirds year life that we allow for drop wires."

2215 "Q. If you leave that out of your wire calculation, you would have to raise the life of the pure iron wire, wouldn't you? After you make a calculation of pure iron wire, say at twenty years and the drop wire at six and two thirds years, you get something around fifteen or sixteen years, wouldn't you?"

"A. No, the drop wires are taken specifically at six and two thirds years. All the rest of the wire is taken specifically at sixteen and two thirds years. Now, some of that wire is copper and a little of it is iron. That is by, "little" I mean the money value."

"Q. Yes, pure iron wire then, lasts sixteen years?"

"A. I doubt it. I have seriously doubted it. I think it makes no difference whether it lasts sixteen years or not. I think it would be replaced before sixteen years was passed"

"Q. Well, if you are going to fix a reserve for replacements you would have to have a percentage big enough to make a replacement, wouldn't you?"

"A. You certainly would. You see we are dealing with two and a half or three million dollars' worth of property, exclusive of all overheads and all worth of materials and labor——"

"Q. (Interrupting.) We are dealing right now, with just one part of it, that is iron wire."

2216 "A. Yes, and to seg-grate out everything, every \$100.00 worth would be to make a volume bigger than Webster's dictionary."

"Q. Well, we haven't any such volume here and we have segregated every item?"

"A. Well, we have had to take some combinations and approximations. Now, if the value of the iron wire is as much as \$15,000.00 or \$16,000.00 and we have given it a sixteen and two-third-year life instead of say, an eight or six per cent, it ought to have been twelve. why you are out \$7.20 a year?"

"Q. Well, we are not counting what we are out. We are trying to get your life tables' life?"

"A. The life tables taken on an average, we simply take the aerial wires as a bare example. We admit the short life of drop wires and have taken care of this in this method pointed out."

"Q. Well, you must have assumed that pure iron wire, if you combine it with drop wire, you must have assumed that the pure

iron wire will live longer than sixteen years; otherwise, you would not have made a combination of six and two-thirds per cent?"

"A. It has been combined with drop wire. If you will look over it you will see."

"Q. Will you give them to me separately and——"

"A. Yes."

2217 "Q. What is the life of pure iron wire?"

"A. I haven't given any life of pure iron wire. We have not assumed that your aerials are all pure iron wire. I assumed that some of them are copper."

"Q. Did you find a single mile of aerial copper wire in this plant?"

"A. I have not made any inspection. In 1914 we took your inventory. In 1918 we made an inventory too and checked with yours. If you have your inventory there, I can tell you in a minute whether it shows any copper wire or not. I have certainly been under the impression to this very minute that there was copper wire in those aerials."

"Q. Mr. Hoag tells me, if Mr. Howard does not object that there might be a mile or two miles of copper wire in the entire plant, that the rest of it is all iron wire or copper wire, which is a twisted pair."

"A. Copper clad?"

"Q. Yes."

"A. And did he tell you what proportion was copper clad?"

Mr. D. A. Frank: How much of it was copper clad?

Mr. Hoag: 80 per cent of the total.

"Q. 80 per cent of the total was copper clad."

2218 Mr. Howard: What do you mean by copper clad?

Mr. Hoag. A copper clad wire is a wire having a steel core enclosed with copper. The steel core is to get the tensile strength, the copper is to get the conductivity. The copper wire, while of a small gauge would not have the tensile strength. You have to use a fairly large copper, then it is twisted in pairs.

"Q. Now, Mr. Lyndon, you heard Mr. Hoag's statement there that eighty per cent of the aerial wire is insulated wire, copper clad, what life do you assign to that?"

"A. I see no reason to change the life, sixteen and two thirds."

"Q. Sixteen and two thirds years?"

"A. Yes."

"Q. Would you be surprised to know that in this climate it wears out practically on the average of every five years and has to be replaced?"

"A. What wears out, the wire doesn't I know."

"Q. The insulation of these wires wears out?"

"A. The insulation might."

"Q. How long can you talk over a copper clad wire that the insulation is off, and twisted together?"

"A. Twisted pair, there the insulation begins to go at all, it ends the usefulness of the wire until reinsulated."



"Q. We haven't any way of insulating wire around Houston, have we?"

2219 "A. Not that I know of."

"Q. The only way we could do, is to pull it down and junk it and put some more up there?"

"A. That would be the proper method of course."

"Q. You recognize that the rainfall in Houston is heavy and that has some effect on insulation?"

"A. Yes; there are climatic conditions here that might affect it."

"Q. If the experience of the company is that these wires have to be changed on an average of every five years——

"A. (Interrupting.) If the experience of the company is and uniformly has been, that an average of every five years these wires have to be changed, then that would change the depreciation rate unquestionably."

\* \* \* \* \*

I assume an indefinite life for underground conduits. I have gone on record about that underground conduit matter. I assume that it is indefinite, but in deference to the suggestion of the I. C. C. I take one per cent. The I. C. C. says that you should take an amount which would approximately take care of the repair for which outsiders could not be called on. I don't know that it states it in those words, but that is the understanding that I have from the statement of depreciation I set up by the I. C. C. But I  
2220 think, myself that there is no depreciation in it at all. I do not accept changes that are caused by external conditions such as the change you had on the Magnolia Avenue grade, and on the Main Street bridge here where you had to tear out large quantities of it, for which the Telephone Company would be reimbursed. I do not know who would reimburse the Telephone Company when the City requires it to move its underground conduits. If the Telephone Company had underground conduits down Main Street and the city should grow to be the size of Chicago and wanted to put in a sub-way, and required the telephone company to move, I don't know what the law is, as to whether the city would be compelled to pay the telephone company for tearing out that, but in all equity it should. I have not assumed one per cent on an assumed life of one hundred years. It is no assumption of a life of one hundred years. It is an assumption that about one per cent will cover these ordinary repairs. There is no such thing as life itself of the conduit.

With reference to subsidiary conduits, there is some of that that should be changed occasionally, but I should regard it as very small and covered by the one per cent. In fact, the records that I have from the company, indicated that all the changes that you had had and the costs you had undergone at the time of this 1918 report was made, would be covered by one per cent on the cost of the conduit. The figure of four per cent that I had used  
2221 has no relation to subsidiary conduit, not kin to it. The two per cent that Mr. Hoag has used on underground con-

duit mains is too high,—far removed from any conditions that are conceivable, or any that I have been able to obtain data on, that have ever been experienced. If public requirement here should cause you to have to change the underground conduit that you have, you would certainly be entitled to charge that to capital account. If the Inter-State Commerce Commission will not allow you to do it on one hand, and the city of Houston won't let you abstract it from the other, I don't know exactly where you would be, kind of between the devil and the deep blue sea.

"Q. You think we ought to take a chance on that and not try to have reserves to cover it?"

"A. I think it sort of ought to be a mutual thing. I think you ought to cover some proportions of reasonable expectation and take a chance on the rest, and not make the public absolutely cover it."

"Q. Well, did you know that we have already spent \$40,000 on this very item in Houston?"

"A. Then it has been recent."

Mr. Howard: Now, here I object to the testimony of Mr. Frank.

2222 Mr. D. A. Frank: I am asking the question, if he knows it. Mr. Hoag testified to it already.

"A. (Continuing:) It has been recent. The Maximum at the time the 1914 report was made was \$8,000.00 and some odd dollars."

"Q. Well, the figures must have been corrected since?"

"A. Now, it is possible that that \$40,000 arose from changes in bridges or the viaduct that you have just mentioned.

\* \* \* \* \*

"Q. Now, Mr. Lyndon, on underground cables, what life do you assume for underground cables?"

"A. Before we leave underground conduits Mr. Frank, I would like to add a word or two about that."

"Q. All right, sir."

"A. The record which we had shows the losses due to various causes, principally repairs of the underground conduits, were around \$1,000.00. I understand that since that time another \$40,000 has been required owing to extraordinary changes that were wholly unexpected."

"Q. I don't know whether it is another \$40,000; I think it was \$40,000 altogether."

2223 "A. Well, 40,000 total. These conduits have a value now. That is, they cost something over \$400,000.00. That is to say, not—in the entire time the conduit system has been here, there has been a ten per cent—

"Q. (Interrupting.) The entire time since 1910?"

"A. 1910, the entire time in ten years, there has been ten per cent expended and that thirty-two thousand dollars has come from an extraordinary cause, such as it is scarcely possible could ever be repeated, the changes in this viaduct."



"Q. Couldn't you build some more viaducts around Houston, in the future?"

"A. Yes, they might. In that case, they would simply be additional, you wouldn't tear out the ones you already have."

"Q. Couldn't they change the grades in streets here, wouldn't that have some effect on underground conduits?"

"A. It is possible."

"Q. Couldn't the city make some—lay some large water mains and require us to get out of their way?"

"A. I never heard of that being done."

"Q. Couldn't they lay a large storm sewer in some place and tell us to get out of their way?"

"A. It might be a remote possibility."

"Q. Don't you know it does happen to us all of the time, it is not an unusual occurrence for the City to put in a sewer and require us to get out of the way?"

"A. And yet, in these ten years, it has amounted to \$40,000.00?"

"Q. Well, that takes up the entire amount for reserve for 2224 replacement doesn't it, on that basis?"

"A. Yes, there's thirty two thousand that apparently is extraordinary and is highly concentrated."

"Q. But the extraordinary part, that's one of the things that we set aside reserve replacements for, which you do not anticipate will ever happen in anything, your life tables are all formed on the theory that nothing will ever happen, isn't that true?"

"A. No."

"Q. Do you take into consideration anything in the way of changes or things that are likely to happen for extraordinary repairs?"

"A. If, they don't happen, what becomes of the money that has been set aside for the purpose. It goes into a fund does it not?"

"Q. Well, if you were trying to set aside a reserve for replacements, why the question with you would be—what is your idea of a reserve for replacements?"

"A. Well, I haven't an idea of reserves for replacements."

"Q. You have no idea at all for reserve for replacements?"

"A. I have an idea of replacements."

"Q. You have no idea at all of reserves for replacements?"

"A. Oh yes, I think I know all it is and what it is used for and all that, but I am speaking about this specific thing. There is a certain sum of money that should go to the company as a 2225 net amount, part of that is a return, part of that is to do this thing, to amortize the company's property within a reasonable time because whenever you install any piece of apparatus, from that day it starts in its inevitable march to the junk heap, and as it proceeds on its way, its value continually diminishes and as its value diminishes in order that the investment may maintain its initial value, there must be some money handed back to the owner."

"Q. But, in 1914, you said that the underground conduits did not depreciate at all and you would not allow any amount for that?"

A. It does not depreciate, the only thing that can happen is

extraordinary repairs and that is the basis on which the Interstate Commerce Commission, apparently suggests that a fund—not a fund, but a depreciation rate be set up against it. It is obvious that unless a conduit is abandoned or removed that it is as everlasting as the ground that it is put in.”

“Q. Do you know that fifty years from now they are going to be using conduits at all?”

“A. No, I made the statement that in seventy five or one hundred years there might not be any occasion for conduits, but by that time all present financial schemes would probably have disappeared too. It has proven futile—it is perfectly futile to mark out and outline any scheme of action to take care of one hundred years from now.”

“Q. So you don’t recognize the advisability or the practicability of setting up a reserve for replacement to take care of this property when it is finally taken out?”

“A. It is highly desirable for the company for the setting up of a reserve for replacements. It is the duty of the public to supply the company a net amount of money, which will every year compensate the company for its change in value, for the diminished value of the plant and that they have every right to collect and that should be awarded them and that the city never has contended against.”

“Q. Is it your idea that the reserve for replacement should be just exactly proportionate to the diminishing in value?”

“A. Not necessarily. That is a matter for the company to decide what it shall do with its money, but if the public should pay any greater amount, I don’t regard it as just.”

“Q. Do you recognize Mr. Lyndon, however, that we will maintain utilities, try to set aside a reserve for replacements on the theory that the public can never be harmed by setting aside this reserve, because once set aside, it can be used for no other purpose, except to rebuild the plant, but the public may be harmed by not setting it aside on the theory that the time may come when the company is called upon to give service and the company not be able to give any service, do you recognize that principle in public utilities?”

“A. Perfectly understandable.”

“Q. Is there anything to criticize in that theory of public utilities.”

“A. Not if the amount contributed by the public to the reserve fund does not exceed the amount owed by the public to it, which is the reduction in value each year.”

“Q. Mr. Lyndon, how does the public owe anything?”

“A. It gets service and for that service it incurs a definite debt and obligation.”

“Q. Do you realize however, that the members of the public who get service, pay only for what they get and that they will not pay for something that they do not get?”

“A. Well, they get two things; they get service and they get the use—you may say the consumption of machinery. An electric light

plant burns up coal and it burns up machinery just as surely as it burns up fuel. The only thing is that the fuel goes faster and must be replaced frequently; the machinery goes slowly and must be replaced at long intervals?"

"Q. So that it is necessary to have reserves for replacements?"

"A. It is necessary to have, it is desirable to have reserves for replacements and it is necessary that you collect from the public an amount which reduces the change in value of the plant  
2228 from year to year. Now, if the change in value each year, the amount which you collect, does not pay for your replacements—

"Q. (Interrupting.) What are you going to do Mr. Lyndon?"

"A. The difference must go into capital account."

"Q. Now, Mr. Lyndon, you are assuming that it goes into capital account. What is your authority for saying that anything like that goes into capital account?"

"A. Stick to the fundamentals, and I don't think we will diverge much, Mr. Frank."

"Q. All right, I am ready to hear."

"A. A man buys a \$1000 bond and he gets five per cent interest on it for 20 years. At the end of 20 years he gets his money back, because the bond is redeemed. A man who puts a thousand dollars into a public utility has a right to expect the same identical treatment he gets his six or seven per cent, or whatever it may be, on his investment and that as the thing which he has put his money in loses its value, it is returned to him. Now, with that situation it depreciates. You see, the amount the public owes is the amount that the man invested in this machinery. Now, if he invested a thousand dollars in it, it finally passes out, he has collected a thousand dollars, but he is going to replace it and a new one costs \$2500, then he has only got all his money back, the other \$1500 must be capital account."

"Q. That isn't the same proposition Mr. Lyndon."

2229 "A. Now, the suggestion that you have a thousand dollar investment and you are going to be confronted with a \$2500.00 investment and that within the course of a certain number of years you shall set up an amount to collect from the people to take care of that \$2500 investment does not appeal to me."

"Q. That has not even been remotely suggested by me; but what I did suggest to you, taking your own illustration, is that if you had one thousand dollars invested and say a fair return would be 8 per cent, and you did not make the fair return, for, say five years, during that 20 years, and that would be \$400.00, your proposition is that \$400 ought to be added to the \$1000 and your investment then is \$1400.00?"

"A. Yes."

"Q. Now, I am asking you to do that; now I am asking you how we can do that under what law we would be permitted to add \$400 to our capital account?"

"A. It is my impression that before all cases—in all cases before Public Service Commissions, that that is done. It was originally

suggested, or originally was brought to me attention away back in the early days by the Wisconsin Commission and they had a very definite scheme of working that out and setting it up."

"Q. Don't you know that the Wisconsin Commission itself has abandoned that scheme?"

2230 "A. I do not."

"Q. Can you name one single case in the last five years that is set up on that scheme, one single case?"

"A. No, I cannot name a case at any time that was set up on that scheme. I have read a number of cases, but I don't remember whether it did or did not."

Mr. Howard: The Massachusetts Commission recognizes it yet.

Mr. D. A. Frank: No, the Massachusetts Commission does not; I beg your pardon, the Massachusetts Commission does not go on that theory. The Massachusetts Commission goes on the investment theory pure and simple.

"A. I certainly regard it as fair. The Wisconsin Commission may have abandoned it, but the logical thought they gave for adopting it is unescapable to my mind."

"Q. The trouble is if we are under the Interstate Commerce Commission and have to obey their rules in making out our accounts and can't even set up accounts different from what their rules require, we would be in very poor position to take advantage of that, if it were approved by the Commission here or by the Court, wouldn't we?"

2231 "A. If that is true, you would. But I didn't know that the Interstate Commerce Commission did anything more than require a system of accounting. I didn't know they actually controlled your investment."

"Q. They don't control our investment, but they do control the kind of accounts we have. Now, how would we take advantage of our books of adding your capital—adding to our capital, as you say we would, something that the Interstate Commerce Commission would not allow us."

\* \* \* \* \*

Mr. D. A. Frank: Let me read the rule to you and you can see. Page 33, rule 10: "Costs to be actual money costs.—All charges made to fixed capital or other property accounts with respect to any property acquired on or after January 1, 1913, should be the actual money costs of the property. When the consideration actually given for anything with respect to which a charge is made to any fixed capital or other property account is anything other than money, the actual consideration should be described in the entry with sufficient fullness and particularity to identify it, and the amount charged should be the actual money value of such consideration at the time of the transaction."

"Q. Now, you recognize the fact, do you Mr. Lyndon from that

rule that we could not set up on the books any theoretical value on account of a loss, do you?"

"A. I would not attempt to at this time construe it, but it mentions there "consideration." I would not attempt in the presence of lawyers to construe a statement of that kind, but it does not seem to me that failure to collect a sum of money from the public  
2232 which it owed you for services and for which you were insufficiently paid would be a sufficient consideration for your receiving it at a later time under another guise and setting it up."

"Q. Mr. Lyndon, let's go on to this annual rate of reserve for replacements. You assume for underground cable, what life, main underground cable, you have it set up on page No. 2, of your Exhibit No. 2."

"A. Two per cent."

"Q. What is the life then?"

"A. That would make the life, if it were applied only to depreciables which it is, that would make the life of underground cable, lead cables, fifty years."

"Q. Well, do you suppose there are any lead cables anywhere fifty years old?"

"Q. No, the telephone art is not fifty years old."

"Q. Well, is it likely there is any that will last fifty years?"

"A. I see no reason for its depreciation. You might get electrolysis in lead occasionally, but you see the entire thing is sealed up in a lead, just like canned vegetables. There is no way in which deterioration can take place except through injury to lead sheath. A pin hole in a lead will let the water travel a quarter of a mile in a cable but assuming that the cables are all good and that you are not afflicted with electrolysis, I see no reason for the cable  
2233 giving out on you at all, the lead sheath."

"Q. Now, suppose that we had assumed a fifty year life for a cable twenty years ago and had set our reserve aside on that basis, the fact is, that we have very little cable anywhere in our territory that is twenty years old and if we had a great deal of cable twenty years ago?"

"A. Lead sheath, underground cable, insulated cable?"

"Q. Yes."

"A. Twenty years ago?"

"Q. Yes."

"A. And it has all disappeared?"

"Q. Practically."

"A. And none in use."

"Q. Very little. Twenty years ago we had cables that had about two hundred pairs of wires in lead sheath cable, and now we have nine hundred pairs and when the plant grows to such an extent that we require the additional number of wires there, the time necessarily comes, doesn't it, that we have to take out the old cable and put in the new cable?"

"A. It does; sometimes sooner than you expect."

"Q. And as we take out the old cables, they are all in short lengths aren't they?"

2234 "A. Well, the standard man-hole length."

"Q. Well, something like 250 feet?"

"A. Somewhere from 260 to 300 feet long."

"Q. As they come out, you know how they are usually treated, when they come out?"

"A. I understand that they are pulled out but used in other conduits."

"Q. Well, do you know that, as a matter of fact, as they are pulled out they are usually chopped into two feet lengths and melted into junk?"

"A. No, I understood that they were pulled out and used other places."

"Q. What determined whether they were used in another place?"

"A. Whether or not they are large enough or too small for the service."

"Q. Could you take out an underground conduit and use it for an aerial cable?"

"A. Of course, you could as a matter of fact."

"Q. Would it be economical to do it?"

"A. I doubt it. It would be too heavy to suspend and you would have to make a splice at each intersection."

2235 "Q. So that you would have to take into consideration the then certain condition of the cable as to whether or not, there were any defects in it on account of electrolysis, and also the question of cost of making the splices and the question of whether or not it was suited for the purposes for which it was going to be used for?"

"A. It would seem to be logical to pull it into other places where the 200 pair cable is what you want and what you need."

"Q. Well, are these conduits?"

"A. (Interrupting.) Well, you try and make man-hole lengths around three hundred feet apart."

"Q. As a matter of fact, no two of them are just exactly the same length apart are they?"

"A. No, I doubt it."

"Q. It would be like a woman tearing up a dress to try and make another dress with it, it would be hard to make it?"

"A. I don't understand it is impracticable, I understand that it is done, and done by the Bell Company."

"Q. Where is it done by the Bell Company?"

"A. I don't know. I told you this information is what has been given to me and that is what is done with the cable, and that is the reason for the low depreciation. If you have to pull out cable, this cable will not be worn out or obsolete, but it will become antiquated and its life may not be over ten or twelve years; it might in some instances not be over twenty years."

2236 "Q. Would you be surprised to know that the experience of the Bell Company through the entire system is that the life of it on the average is not over twenty years?"

"A. That is the average life of all the cable?"

"Q. Of all the cable?"



"A. It would surprise me. That is computing it from the day it is bought to the day it is sold as junk?"

"Q. That is the idea exactly."

"A. Yes, it would surprise me considerably."

"Q. Mr. Lyndon, right there, I don't know whether you realized it or not, but the probability is that you have made an error in the assumptions of your life tables and the use of life tables, the life tables that you have used here are the old Bell life tables, aren't they?"

"A. I think so."

"Q. Now, do you know how they were arrived at?"

"A. No, I don't know. As I told you, these tables have proceeded from practical telephone men and operatives and maintenance men. I would not have attempted to fix those myself."

"Q. Now, that was exactly what I thought from your report, that had happened—that you had taken the old Bell life tables and had misunderstood the use of them, at least our ide-s, you might have had your own ide-s, but you had misunderstood our idea of the use of those tables. The manner of arriving at our depreciation rate on the underground cable, for instance, would be to subtract first the junk value, which is 40 per cent from the one hundred per cent of the entire value, leaving sixty and then that is divided by the average number of years, which is twenty, so that we arrive at three per cent that you arrived at. Now, what you have done is to take your three per cent and assume that percentage should be applied for the depreciable property only and that, therefore, dividing one hundred by three would give you the life of the cable, or two as you use in the other tables. Now, that has resulted through your entire set-up, I am stating it to you, very frankly and sincerely as I know how. That has resulted in all of your set ups being off to the extent that you think that we have not taken into consideration the fact that the property depreciates—leaving junk—and that is the main difference between your figures and the figures of our engineers in this set-up, do you see what I am talking about?"

"A. I understand perfectly, yes, and—"

"Q. (Interrupting.) We have no criticism however, of your doing it because it is a misunderstanding on your part, of how they are used."

"A. That may be, and it may be perfectly applicable to strictly telephone property, such as, for instance, paper insulated cables, but in matters of such as pole lines and insulators and cross arms and hardware and all that, they are common not only to telephone systems and—but in every other character of systems. Now, on this, I have used the knowledge that I have. Now, on this underground cable I questioned that low depreciation rate. It looked low to me and I was informed that the reason it was low was the one that I have given you, that when inadequacy overtook a cable, as it nearly always does, until you get up to the limit of cable sizes, the cable was simply transferred to other conduits."

"Q. Well, of course, you could realize that unless you found another conduit that was just exactly the same length that if you pulled

out three hundred feet in one place and wanted to use it in a two hundred feet one, you would have to cut off a hundred feet which would then have to be junked."

"A. Yes."

"Q. Or if you had a 260 foot piece which you wanted to use in a 300 foot run, you would have to make a 40 foot splice?"

"A. Yes."

"Q. And either one of them would be uneconomical?"

"A. Well, cutting it off might not be, but splicing it costs a lot of money."

2239 "Q. Now, you have used two prices in the report which you have just read for your underground cable, whereas in your present set-up, I think in order to be fair to you, you used three per cent in your Exhibit No. 2, on page 2?"

"A. Oh, the present Exhibit?"

"Q. Yes."

"A. Yes, as I told you that two per cent always looked a little bit low and I had to have it confirmed before I would use it and in making these exhibits, I thought it looked too low any way and arbitrarily lifted it fifty per cent and made it three per cent."

"Q. You can easily see that if what I have stated to you frankly, is correct, that some of the calculations you have made on the value of this property would make some difference in the final outcome?"

"A. If the life is twenty years, and that has been your experience, shown inescapably and the indications are that both cables are—although cables now made up as large as you can pull them into the conduit that that would be the case in the future, then five per cent is the amount to apply to the depreciable portion of property?"

"Q. And if you put it as we do on the entire amount why the three per cent should be applied to the one hundred per cent instead of to the sixty per cent?"

2240 "A. But my present view of the matter is that most of the fundamental work was begun with small sized cables because they were big enough for the then needs and even immediate prospective needs and that cables that have been recently installed, say within the past four or five or six years have been about as large as the conduits would permit and therefore, the question of inadequacy can never arise with those cables. The inadequacy of your conduit system may and you may have to add to it at a capital account cost, but you can't pull any bigger cable in than those that you already have in, in a number of places."

"Q. You realize that instead of tearing up our conduits the General Staff of the American Company has been working for years on the proposition of—

"A. Smaller cables having given number of pairs."

"Q. That is smaller cables having a given number of pairs or a greater number of pairs for the same size cable?"

"A. Yes."

"Q. So that, whereas a two hundred pair cable used to fill up a cable run, we lay out a four hundred and six hundred and are now using a nine hundred pair and they are even manufacturing a twelve

hundred pair cable that will be used eventually; you know of that development?"

2241 "A. I know of that. I think that was brought out in the testimony."

Mr. Howard: How do you claim credit for the General Staff, in the idea or in the construction of the cable?

Mr. D. A. Frank: That has been fully covered Mr. Howard, and I don't care to go into it right no, unless you are very anxious to.

"A. In that case, if you have cables that are from, say, six hundred pair up, the prospect of inadequacy is very much less than the prospect of inadequacy was fifteen years ago on the then existing cables."

"Q. Well, suppose Houston continues to grow as rapidly as it has in the last twenty years, we would probably have to use twelve hundred pair, where we have got now four hundred pair and six hundred pair wouldn't we?"

"A. It might be so, but it would only be very short runs from the station out. It would mean that streets that are not now covered, you will have to cover. For instance down Main Street, there are about all the telephones per unit length of street that — may reasonably expect. You can't expect them to be doubled, no matter if the city grows enormously to five times its size. It means that other territories will be covered.

2242 "Q. But down here, but between here and the Rice Hotel they have torn down an old building and are going to put up a large office building?"

"A. I understand so."

"Q. Don't that mean we will have to run more wires to take care of that?"

"A. Unquestionably."

"Q. And then, the oil company is putting up some sky scraper, that is intending to, don't we have to take out the small cables and put in some large ones?"

"A. True, but the percentage increases will be nothing like has occurred. That is, the prospects of inadequacy within the space of time you mention is nothing like as great. I know, although you didn't say, that this twenty year life that you mention is not due to the cable wearing out, it is inadequacy."

"Q. It is inadequacy and in some respects obsolescence. Well, I don't know whether you would call it obsolescence or not?"

"A. It don't have enough pairs in it, that covers the whole thing. Now then if they lasted twenty years from the beginning, with the rapid growth the high percentage growth per annum, they will last much longer than that, beginning from now on, and as the city grows each year the percentage increased in any given run of underground conduits should be naturally less."

2243 "Q. But you should have additional developments for the city, where you will have virtually the same situation that has obtained heretofore, in the business part of town, isn't that true?"

"A. No, I think that you will find that there are certain streets

that you are covering with aerial in which you will put down underground cable and when you do you will put down sufficient number of ducts and draw in cables with a sufficient number of pairs to cover whatever prospects you will receive for a number of years."

"Q. But we don't put cable in big enough in the cable duct, for instance down Louisiana Street, we would not put in cable longer than to last for about five years?"

"A. That I don't know."

"Q. Would it be economical? Suppose we knew positively that within the next ten years that Houston was going to be as big as St. Louis, and that it was going to extend South and east, that is sometime within ten years, that we are going to require as heavy cables out certain streets here as we have in the downtown section. Now, would it be economical to go and build the construction for that period, ten years in advance?"

"A. Not at this time."

"Q. The only thing you could do would be to put your permanent construction in at this time, wouldn't it?"

2244 "A. Yes, and I don't know how much of that, this time is a period of certain high prices."

"Q. That you might better afford to wait?"

"A. Much better afford to wait, yes."

"Q. So that there is, this thing of inadequacy is something that we are likely to have at any time in any part of our plant?"

"A. Unquestionably. I admit that, but the only question is, is the prospect of inadequacy as great as the prospect for inadequacy was fifteen years ago, when you first laid cables? I don't think so. If twenty years was the life of the cables, beginning from twenty years ago, then I should say they ought to at least last twenty-five or twenty-six years before inadequacy overtakes them as an average. Of course, there's cables you will cut down and in thirty years you will have to pull them out, as an average."

"Q. Mr. Lyndon, when we adjourned yesterday we were talking about underground cable, and as I understand from your testimony, the percentage that you used there was used,—that is, all the percentages have been applied by you under a misapprehension of the use that is ordinarily made of these percentages?"

2245 "A. No, I understand that these percentages are the percentages used at one time by the Bell Company, and if applied to the total cost and not to the depreciable value, but—"

"Q. And you take the very same percentages that the Bell Company had used?"

"A. I did in the case of the underground cables. For other percentages, which as I explained at the time, refer to general character of electrical equipment, with which we are all familiar and on those I took percentages which I know to be correct."

Specifically, the first I call to mind is pole lines. I used 8 per cent on that. I gave the pole plant a life of twelve and one-half years average. That average is fairly standard among engineers, and while it is too short a life as the average life, I feel it is a safe

figure. I have used variously twelve and one-half years and ten years all my life. I have never had a shorter period of time than ten years, and I think I never used a longer period than twelve and a half years. Telephone companies use ten years constantly, but that does not mean that they wear out in that length of time. Figures for depreciation should be based on mere wear. I changed over from ten years to twelve and a half years because of poles that are newer that have been planted and are still in use on transmission lines that

I knew of more than twelve years old still continued, and that  
2246 as far as I could find out in Houston from going over the leading properties here, that it was probable that twelve and one-half years was a fairer life than ten and other data in various places. The gross additions to the plant in Houston of pole lines might amount to more than what it is shown to be on the books as the cost of the poles in Houston or might not. The total amount of the gross additions would show the total amount of what was in the plant at present, if the gross additions were made within a comparatively short space of time. If the life of the poles is ten years, or longer, the gross additions should show the actual poles in place. If the gross additions do actually show for the last ten years a larger amount than the company's book account of poles, it would tend to verify the company's figures of ten years,—it might even do more than that, it might show higher assets in place than the books account for. I do not understand that you claim more property than the books account for, but a higher value on the property than it had at the time it was purchased. I have never understood that you made the claim that the books will show less than the actual cost of the property, I never understood that you made any such claims as that. I did not know that prior to 1912 there was several items of  
2247 cost that did not go on the books. Your books which purport to give the expenditures the company incurred for plants do not actually do it. I did not hear Mr. Kelsey say that no books prior to 1912 were accurate, and I have not read his testimony on that.

I do not know that such expenses as general expenses, engineering expense, taxes, and interest during construction were left out of the books prior to 1908. Of course, that would not apply to anything that had a twelve year life, because, prior to 1908,—anything put in prior to 1908 that a twelve year life would have to be replaced now, and would be about new now.

I did not allow any junk value for poles; I do not regard them as having a junk value. I am assuming and applying my per cent to the depreciated value instead of the actual value, and that would get the same results either way from poles for the reason that there is no junk value.

On an aerial cable I used three per cent, and also used three per cent for underground cable. The aerial cable should have somewhat more rapid obsolescence than underground cable. I do not see that it would have any deterioration other than possibly it might be torn up some by storms but in that case, it is simply replaced. If it is simply replaced, you do not have to have something to replace it

2248 with; if the cable is blown down it is tied back up as soon as the storm is over,—lead sheath cable isn't ruined by being blown down. It might and might not be damaged by being blown down, the probabilities are it would not. The copper wires are covered with a lead sheath and is a right substantial structure. Cables up in the air are subject to accidents. It is true that a larger amount should be allowed for an aerial cable than on underground cable, and in all the reports, except this one it has been one. But in this case instead of increasing the aerial cable, I simply increased the underground; that is what makes them equal.

"Q. Mr. Gates, in testifying allowed a percentage of six per cent, and Mr. Player, who had a great deal of experience, fifteen or twenty years, with Commissions, allowed six and two-thirds per cent, and Mr. Hoag allowed five and four tenths per cent for an aerial cable?"

Mr. Howard: What did you say Mr. Player allowed?

Mr. D. A. Frank: Six and two-thirds per cent.

Mr. Howard: If you will go over that you will find you are wrong about that.

(By Mr. D. A. Frank:)

2249 "Q. And Mr. Hoag used 5.4 per cent. Mr. Topping had eight per cent, and you used 3 per cent. Now, there are five engineers who average something like six per cent, and you have used practically half, so it would seem reasonable that you might be wrong on that, wouldn't it?"

"A. It would be possible, but the true test would be the actual experience of all telephone companies over a long period of years and that's what these figures are,—that's what they amount to and are,——"

If the American Telephone & Telegraph Company's figures based on forty years experience are 5.4% the same as used by Mr. Hoag, it might be and might not be pretty good evidence of what would be right; it depends entirely on the basis. If the evidence shows that the average of cables as found in the whole experience of the American Telephone & Telegraph Company that 5.4% applied to the depreciable value is the true amount, why, it would be difficult to contradict it, but if the experience of the American Telephone & Telegraph Company indicates not that the life of a cable is the criterion that fixes that five and three quarters per cent, but that it is desirable to set aside that amount of money, it would be quite another thing.

2250 "Q. But these are the figures that are entirely divorced from the figures desirable to set aside based on engineering study of the actual life and experience, that is, the actual life of the cable as shown by the experience of the American Telephone & Telegraph Company in——"

"A. (Interrupting.) That is about 17 years."



It has been true up to the present time that just a small per cent of the telephone plant wears out. There is nothing that occurs to me that would actually wear out except poles and cross-arms, and you have mentioned that the insulation or twisted pair cable, that is exposed; Iron wire wears out, but I should judge that would be removed before it has a chance to simply corrode away. I did not use six per cent on iron wire; I haven't considered iron wire. I regarded the cost of iron wire as forming such a small proportion of the aerial wires that a special separation of this part of the equipment and a special rate of depreciation did not seem to me to be worth while. I did apply six per cent to an aerial wire which includes a little bare wire. On an aerial wire I took the junk value that was suggested by the Telephone Company which was 30 per cent of the original cost. There is no junk value to iron wire, but let me say again the value of the iron wire I regarded as,—first I admit that these are improper values to apply to iron wire specifically per se as including nothing else; iron wire itself is not considered with anything else, iron wire has a negative value as junk; the labor cost more to take it down than it is worth. The figure is not

2251 minus 16 per cent; you could put up wire for less than that. On familiar ground I have strung a great many miles of wire, and it is wrong in the amount that you have specified as the negative cost. Anybody can take that wire down for very little money, so little that it would be practically negative. After you get it down it is worth substantially nothing; it is hardly worth hauling away. I do not know what it cost you to take down a mile of it, but I do know that if it would cost more than six or seven dollars a mile to take it down, then somebody is spending money that ought to be saved.

I do not know what a mile of ordinary 12 guage iron wire is now worth, F. O. B. Houston. I do not know whether six dollars a mile on 14 guage sounds right; it might be around six dollars.

I do not think that two dollars is excessive to pay for taking down a mile of wire; that would be 33 and one-third per cent of the wire itself. Taking it down might cost thirty-three and one third per cent of the cost of it and after having it down it would not be worth anything, but you are taking the wire just F. O. B., and the real value of the wire as shown on your books, and as we estimated it, is the wire strung in place.

I think that Mr. Hoag is wrong in assuming that the iron  
2252 wire depreciates to minus 16 per cent. I might *I might* accept that if I had a rational basis for it, but it, the wire costs a certain amount of money, you say now about six dollars. I do not know what amount it is. It has got to be strung, tied in place; I do not know what it cost you, but assuming that you do that you do that for \$13.00 would be a total cost of \$18.00, and if you took it down for \$2.00, it would be one-ninth of the cost or something like 11 per cent, and if you took down a large quantity of it, there is some slight junk value, but of course, if you take small lots it has no junk value because you haven't got enough to sell and could hardly afford to bundle it up and carry it to the railway sta-

tion, but, if you have a large quantity there would be some junk. Now, let's admit that it sinks to 15 per cent, just to carry out the answer I started to make to the question; the proportion of the value of iron wire in the total, I have regarded as too small to either segregate or to let influence the figures which are used for copper wire.

The figures are wrong, every one of them, as set down by either you or me. There is nothing definite about depreciation; it is an approximation and when I used them, it is an approximation and now, to try to get exact results out of an approximately fixed basis has no logic to it. The only difference is that your figures are not based on 40 years' experience, and that mine are taken  
2253 out of thin air. Your figures are based on different experiences that cover various parts of the country and you should have a reasonable and fair average basis for the total, but your own experience has shown you that the rapid changes in the past has caused obsolescence with a rapidity, which you probably do not expect in the future, and the present figures are not totally based upon experience, but are partially predictions.

"Q. Now, the figures I have read you are the figures of the American Telephone & Telegraph Company for bare wire, and for insulated wire of 12.9 per cent as comparable with your 6 per cent, whereas, Mr. Hoag taking the experience in Houston, used 16.5 per cent for bare iron wire and 15 per cent for insulated wire."

"A. Six years' life only?"

As to whether or not I can conceive of any reason why bare iron wire and insulated wire would wear out faster in the City of Houston than it would on an average throughout the United States, as I stated before, I do not believe that iron wire gets a chance to wear out. It comes down though. In a damp climate insulation will deteriorate more rapidly than in a dry one, but that still does not  
point to any five or six year figure to me.

2254 If the gross additions in the sub-station equipment account for the last five years more than equals the entire total carried on the company's books for sub-station equipment that would convince me that the books were wrong, and we wanted another basis. I do not know why the books would be wrong. If the property now in use, not only for sub-stations, but any additions that you may choose to name, exceeds the books I would conclude that the books are in error.

"Q. Well, that's exactly what we tried to impress upon you from the start, that the books do not contain all the property, and that's necessarily true because no entries will be made except for property actually constructed——"

Mr. Howard: We would rather that you prove these things, than to testify to them yourself.

I have used thirty-three and one-third years as the life of underground cable, underground cable subsidiary and blocks, and under-

ground cable house, and underground terminals, and miscellaneous, and I have bunched all of these and used 3 per cent for them. I judge underground terminals do not last as long as underground cable. I do not know what the life would be of underground terminals. That would be subject to change with the change  
 2255 in conditions. The ratio of the cost of underground terminals to the cables is so small—I think I could best illustrate it, if a man had a thousand head of cattle and one horse, that he would take, and say the value of my life stock is \$80 a piece,—is \$80,000. Now, you have got a horse in there that is worth \$100. Now, to attempt to separate the whole thing out into individual items, each of which is somewhat different in its rate of depreciation would make a long and cumbersome document, and we would not be any closer to the fact finally than by approximating. In the matter that we are discussing, I took the ordinary Bell 2 per cent, raised it one per cent, and called it 3 per cent.

As to where I got the Bell figure of 2 per cent for underground cable, I understood that was what you said yourself yesterday.

“Q. No, you said it, I asked you if you adopted the old Bell figures on some items of the plant, but not underground cable. The figure of the Bell Company for years has been 3 per cent. Underground cable, main and underground cable subsidiary has been 4.6 per cent. Mr. Hoag’s figures were underground cable main, 3 per cent; underground cable and subsidiary and block, 7 per cent; underground cable house, 6 per cent; underground terminals and miscellaneous 10 per cent. Of these about three fourths would  
 2256 carry the 3 per cent and one fourth would carry the higher per cent, which would be rather a substantial item, wouldn’t it?”

“A. Yes, it might be. That means that there is a little more than four hundred thousand of that property and that would mean that according to the books three hundred thousand would carry 3 per cent and one hundred thousand would carry some other percentage, which would then depend on the various percentages into that one hundred thousand, which we adopt for terminals and subsidiary laterals and for the rest of it.”

It would make some addition if those figures are correct, I mean, actually based on the life which has been found to exist.

I did not use any right of way, and of course if I did not use any right of way, I could not use any rate for it. The investigation that we made showed that in right of way forty six or forty eight hundred dollars have been incurred in Houston; I mean has not been incurred in Houston, but was an allocated charge, that is, the right of way of the whole company had cost so much money. As to whether or not I know that you are paying for right of way to the city of Houston, and cannot even set a pole without paying a 50 cent charge, that refers to a new pole; you can’t replace a pole without paying a charge. If you have 17,000 poles in the city of

Houston, that would mean something over \$8,000 for right of  
 2257 way, even for the city, that is if they were placed subsequent

to the time that they passed the ordinance. If they had that ordinance twenty years, then you had to pay it, but I understand it was put in your construction cost. With reference to people who have property where you want to set a pole on the back end of a lot, and they charge you for that, as to whether or not that is right of way depends on whether you pay that money and charge it to construction cost or not. As to whether or not all of that has to go into right of way if you make such payments I am not sure of. I thought — was all part of your construction. The Interstate Commerce Commission has not been working but a comparatively short time, and I judge there has been but few new poles planted in that time, in fact, in the past eight years the tendency has been to take out poles, rather than to put up any new ones. The town has been continuously growing but the tendency has been more to extend the underground system. I do not know that you have got more poles today than you had ten years ago, but that can easily be determined by reference to the book of statements which we have here and we can look at that and see.

I understand that the city of Houston has grown in ten years from 90,000 from what has been variously estimated from  
2258 one hundred forty to one hundred seventy thousand people, and that the suburbs have grown very largely themselves, that is, people have moved further and further out, and ordinarily suburban construction is an aerial construction, so that, of course it would not be unnatural if you have more aerial construction than you had ten years ago, but that would depend on the rate at which you had removed poles in the more congested sections.

If your gross additions the last ten years amounts to more than the entire book cost of poles as carried on your books, it would seem to indicate that you had been putting up a good many poles in the last ten years. If that is a fact when you include the Houston Home purchase. I do not know how many poles were in the Houston Home purchase, but the poles had an initial value of about \$66,000.00. I do not know how much of that was put on the company's books. I think they put that down on the company's books at \$59,000. They were put on the company's books in accordance with the Interstate Commerce Commission's ruling, which required that they be put there at the then depreciated value of poles. The relevancy of taking out the poles of the Houston Home Telephone Company would be only this. That ordinary judgment would show that there must be duplications, but how much I cannot say without making a survey, but it is impossible for the mind of an engineer,  
or an ordinary business man to conceive of two companies,  
2259 one of which was a competitor of the other, that did not parallel and overlap at some points. I do not know that any of the poles have been removed at all. Taking out the automatic which was \$59,119.00 if the gross additions by this company for the last ten years, exclusive of that has amounted to more than two hundred thousand dollars out of a total of two hundred eighty eight thousand dollars, it would mean that we would have to revise the entire subject as far as I am concerned, because it would show that the

basis of which it was founded was wholly wrong,—the basis on which these reports exhibits and conclusions are founded are wholly wrong. We have taken the net additions and have gone further than that; we have changed the ages to accord with the theory that the life covered only a certain portion of the time. We have never had either the gross additions, nor the actual amounts spent for replacements. I do not know that the city had those figures from 1910 up to the present time. I have never asked the City Secretary for the reports made by the telephone company year by year, and do not know that I could have gotten them by asking for them; I thought it was best to ask the telephone company.

I did not personally ask the telephone company for gross additions. We had some accountants to attend to this work and I wrote them two or three letters. One after the other asking for 2260 this information and they replied they were not able to obtain. Now, I cannot say why, not having personally done that, why they were unable to obtain it, but one reason I wanted to obtain this information was that the actual realized depreciation through the past ten years would be an excellent criterion of the best rates of depreciation to apply.

"Q. Did you look at the files of the letters written by the General Auditor to Messrs. Ernst & Ernst with reference to this matter?"

"A. They sent me one or two letters about it, but at the time our communications was by long distance telephone or direct here in Houston."

"Q. Did you see a copy of a letter written February 14th 1920, to Ernst & Ernst, and signed by the General Auditor, the last paragraph of which I will read to you "Regarding the charges to depreciation reserve since 1901, we do not think it is possible to get accurate information back to 1901, however, information is on file at Houston in the reports submitted by this company to the city of Houston showing such charges back to about 1910, and Mr. Lyndon can obtain the information he desires from these reports." Did Ernst & Ernst show you a copy of that letter?"

"A. What is the date of that letter?"

2261 "Q. February 14th, 1920."

"A. No, and the reason is that the information was asked for, I believe, fully a month before that, and on February the 12th, I had completed all the work here I had to do and went to New Orleans, and was not there from the 13th, and that letter evidently was not in Houston until the 15th. On the 15th I was in New Orleans,—on the 19th I sailed for Havana."

Of course, it was not the fault of the telephone company that I was in Havana, but you see I asked for these details a month prior to that date. I asked Ernst & Ernst for it and they telephoned or telegraphed the request to Dallas. I do not know on what date they telephoned it. I can look up the Ernst & Ernst correspondence and you can take the bills from the Southwestern Company showing the date of the call and get that, but it was fully a month prior to that time as I remember it that we requested that as rapidly as it could be obtained, or as quickly as it could be obtained, I do not remember

the date we requested the information, but it was about a month prior to the time that I requested this information in a memorandum handed to the general auditor in the court room on January 12th of this year,—just about a month prior to that letter.

2262 "Q. But, on February 5th, Ernst & Ernst notified the office here of Ernst & Ernst, that is, Ernst & Ernst from Dallas or St. Louis, to the office of Ernst & Ernst at Houston that they got this by years from 1901, and following that came the letter from the General Auditor, on February 14, giving a mass of detailed information in response to other questions asked by you, but stating that the information could not be given back to 1901, but stating that you could get it from the city of Houston. Now, did Ernst & Ernst furnish you a copy of that letter?"

"A. Not a copy of your letter of the 14th, because I had concluded the work of the preparation of these exhibits, which is really bringing the valuation of the company up to January 1, 1920, at that time or prior to February 14th. What date I asked Ernst & Ernst for the date on realized depreciation I don't now know. I have a copy of my letter to them; they put it up I know by telegraph or telephone and my request was not limited to the time from 1901 to the present day. I asked for the data as far back as it was possible to go; for one year, two years, ten years or twenty years,—the date as far back as possible to go and to get the information immediately."

"Q. So at any rate the combination of the misapplication of your depreciation rates and the theory that you set it up on, of net additions instead of gross additions would virtually make your  
2263 entire Exhibit No. 2 wrong?"

"A. No, if the books of the company are wrong, then my Exhibit No. 2 is wrong. That is to say this, the figures, the accountants have given me have come from the company's books. Now, if the books are wrong, why the accountant's transcriptions are wrong, and the resulting document is consequently wrong."

"Q. Now, just to apply a test to that, Mr. Lyndon, let's turn to page 15 of your report now of your Exhibit No. 2."

"A. Yes."

"Q. On underground cable, now you have up to 1901, \$34,273.00 worth of cable."

"A. Yes."

"Q. Which you say is twenty-five years old, and the total depreciation on it is \$15,423.00, making the present value \$18,850.00."

"A. Yes."

"Q. Now, if you had obtained these figures from the city and found that your totals of cost new, \$563,000.00 worth of underground cable, had more than been put in the gross additions since 1909, why necessarily, these figures are all wrong, aren't they?"

"A. It would indicate that these figures are wrong, yes if that is true."

2264 "Q. You have estimated that in 1910 the removals exceeded the additions by \$10,000, and they ought to be subtracted from the \$34,000?"



"A. That ought to be subtracted from the amount in 1901, which would leave \$34,000, and that is, the \$34,000 is not the sum for the value of the cables there in 1901."

"Q. How do you apply that in 1916 where the removals exceeded the additions by \$1,286.00?"

"A. It is assumed that the removals applied to the oldest cable, and certainly not to cable put in — 1910, for cable put in in 1910 was not removed in 1910, and the removals applied to the oldest cables. The actual amount the books showed on hand in 1901 was \$45,716. Now, that being the oldest cable we deducted the removal of \$10,157.00 in 1910 and \$1,286.00 in 1916, which instead of giving the negative quantities, or quantities in the red in 1910 and 1916, they were applied to the 1901 value, bringing the \$45,000 value down to \$34,000; the sum total being identical with what it would have been if we had left the \$45,000 in 1910 and put in red the amounts in 1910 and 1916."

"Q. But what you deducted was the excess of removals and not the removals?"

"A. The excess of removals?"

"Q. Yes."

"A. Yes."

"Q. So that if—let's just assume, for instance, that in 1910 there was \$50,000 worth of cable taken out and \$40,000.00 of underground cable put in."

"A. Yes."

"Q. Now you would assume that only \$10,000.00 of old cable was taken out?"

"A. That is the only thing we could do without a knowledge of the true figures, which you now give. If that were true, the \$50,000.00 should have been deducted from the 1901 value and \$40,000.00 credit in — 1910,—that is in the 1910 value, but of course, the sum total would be the same in any case."

"Q. Would the sum total of the present value be the same?"

"A. Would the sum total of the present value be the same?" No, it would not be the same because the age,—the average age of the cable would be somewhat reduced under these conditions, if these are the conditions."

"Q. So that—"

"A. (Interrupting.) By the amount of change in depreciation."

In a measure I could have gotten the gross additions for 1915, 1916 and 1917. These gross additions from the company's books. In the gross additions are included the purchase of the Houston Home Telephone Company a certain arbitrary valuation and they would have to be separated out, and the result might not be a definite thing that showed the expenditures. It is true that the additions would only be for one year of the Home Company; it would cover only one year. If I knew the figures the Home Company was paid there would not be any trouble to figure that out.

Referring to my exhibit No. 2, page 15, in order to get what I call the per cent value I take \$34,000 of the underground cables and

I have that as though it still were in the plant today with the present value of \$18,850. Then in 1902 I had \$8,000 of underground cable that I gave the age of seventeen and one-half years, and have that depreciated down to \$5,670, and so on down the line, I have assumed that various items of underground cables are the years set out in my exhibit on page 15; that much expired life. I do not know that if I had taken into account the gross additions, that all of this column would be wrong. If the gross additions for the past nine years exceed \$563,000, then, you have more than \$563,000 original cost of cable there, and you have a greater value at present than \$475,000. If the gross additions in the period of nine years, exceeds the cost total shown in any one of these set-ups, then the value of the property actually in use exceeds the amount of the sum. That is a very obvious thing and in that case your books are wholly wrong. That doesn't illustrate to my  
 2267 mind that my theory is wholly wrong; the theory is sound; it is as sound as the multiplication tables.

With reference as to whether or not I think I could take the net additions, and the present life of a piece of property, without ever seeing the property, or knowing anything about the gross additions; the net additions have no relation whatever with the life of the property. The net additions show the growth of the property and that is all. The removals would show the life of the property.

"Q. But in all these reports you have here—in Exhibit No. 2, you show no removals at all except in the case where the removals exceed the additions, do you?"

"A. Oh, yes, we have——"

"Q. (Interrupting.) Wherever it exceeds, your estimated life, then you have another cycle?"

"A. Yes, we assume that the replacements were made."

We assumed that regardless of the facts because, we hadn't the facts, and the only fair thing for the company was to assume that they were actually replaced at the end of the theoretical life.

"Q. Now, suppose, Mr. Lyndon, that in 1901 we had put in \$563,-  
 2268 810 worth of underground cable, and year by year we had taken out as much as we put in so that the net additions—so that there would be no net additions but from time to time the cable would be replaced, but there would be no gross,—according to your theory in 1919 you would assume that all this was brand new cable, one-half year old, wouldn't you?"

"A. As I understand it you each year would remove the entire lot of cables?"

"Q. Oh, no, each year we would just remove whatever was necessary."

"A. And replace it?"

"Q. And replace it immediately, but not have any additions."

"A. The age of the cable would be the average age of all those portions then in place. It would not necessarily follow that the age would just be half a year for the entire lot."

"Q. But on your theory the part that was put in in 1901 was re-

placed in 1918, wasn't it, and at the time of making this report, would be one half year old, or in 1919 whichever you assumed."

"A. No, the additions there put in for each year are given for the actual age in 1919."

"Q. I say you are assuming,——

"A. (Interrupting.) The reason being that the life as assumed is longer than any period back to which we go."

"Q. I see. The life is longer than 25 years. Well, let's take poles, what page?"

2269 "A. You will find that on page 17."

"Q. On page 17. That's probably a more accurate way of putting it,—a better illustration. Now, when do you have the cycle of poles, 1907?"

"A. 1907, yes".

"Q. Now, if you had been making this set-up in 1907, if all the poles, from 1901 up to 1907 had been placed in 1901, then in 1908, you would have assumed that all of them had a 11½ year life, wouldn't you?"

"A. I didn't get that."

"Q. Well, what do you do when the cycle comes around?"

"A. We assume that they were replaced. We haven't the data to show, but then it is due to the company to assume that they did replace them."

"Q. And you assume it regardless of the facts?"

"A. No, we assume that if the company did replace them it spends just that much in replacements."

Mr. Howard: In other words it is more favorable to the company to assume that than not to do that.

"A. Certainly."

As to whether or not the whole thing is pure theory without any application to the facts at all, I will say it is based on the theoretical life of each portion of the plant, the equipment, and as we did not know when the portions were replaced, we took the date  
2270 of replacements as of the theoretical life. Now, if they went a longer period of time than that, why, of course, the company is better off than our computations would show. It would have to be mathematical, without reference to the facts at all; we hadn't the facts.

"Q. And it would have to be corrected even on your own theory to be consistent, you would have to correct it, in the first place, to get the correct life of these items of plant, wouldn't it?"

"A. It would have to be corrected, but to what degree I don't know,—but it would have to be corrected if we had the actual facts with reference to all of these items."

"Q. Well, if you had looked in the City records and got the gross additions from 1910 to 1920, that is, if you were to start to do that now you would have to correct those figures in accordance with the facts?"

"A. Yes, but it is quite possible that when the corrections are finally made,——

Mr. Howard (interrupting): We would be put under obligations to correct this report for what would have been obvious if the information had been furnished prior to the time the estimates were made.

Mr. D. A. Frank: You are assuming that we are under  
2271 the duty of furnishing you the information to make your case; another thing you assume is that because the city happens to be the defendant in this case that some duty rests on the plaintiff in the case to make out the defense for it.

Mr. Howard: We are assuming that the accountants employed by Mr. Lyndon asked the company for the replacements, the time made, and the amount of them and all information referring to that subject. It appears that Mr. Lyndon did not get the information and that he set up the estimates on the assumed life of the property.

Mr. Duls: Mr. Frank read in the record all of this information on the 11th of February, and it is all in the record.

"A. It took us a month to get that information."

Mr. D. A. Frank: It hasn't been held back; It has been furnished year by year and is in your files.

"A. Why take a month to tell me that the data were on file here?"

Mr. D. A. Frank: I can't answer the question. You talked to them about the question of finding a great deal of information and that information was partly in Houston, partly in Dallas, and  
2272 partly in St. Louis. It takes some time to get the information out, but I do know that our people worked in good faith to give you all the information you ever asked for, and finally when it came to the last question your accountants were informed that you already had that information.

Mr. Lyndon (resuming): We have the very intelligent paragraph at the end of that letter saying that the data are all in file in Houston, in the City Clerk's office. If they had only given us the information obtained in that paragraph at the time it was requested, we would have had the exact data. I did not know it was there.

I have not been working on this case for eight years.

I prepared Exhibit No. 2, the first part of February, and did not know the city had any data on this case. Mr. Howard did not say anything to me about these reports that you made to the city; I never knew it until you told me, or brought it up here since I have been giving testimony. I was here in February and left on the 12th. I do not remember that I heard you read into the record the gross additions; I did not testify here in February at all. I was here a part of the time that Mr. Kelsey was testifying, but wasn't here all the time, and it might be that you read this when I was out.  
2273 I have not read Kelsey's testimony; I read a few pages, spotted here and there, but I haven't had any time to read Kelsey's testimony. It is a fact that if the facts are as stated the set-up is wrong. How much wrong I do not know, it might be ten dollars, a million or it may — two or three hundred thousand dollars.

With reference to the rate of annual reserve for replacements on central office equipments the rate I used was 8 per cent; I used 8 per cent in comparison with Mr. Hoag's 10.5 per cent. I used a 12½ year life and apply my rate to the depreciable property. It cannot be that Mr. Hoag figures a 10½ year life and applies it to the whole property, that cannot be, because the only reduction in value is on the depreciable part of the property. I have not found any junk value for central office equipment. I took the telephone company's values, which I have set up here and that is 17 per cent.

Station apparatus, station installation, interior block wire, private branch exchanges and booths and special fittings, all those things I have bunched and used 8 per cent for them.

"Q. Whereas Mr. Hoag used 11 per cent for station apparatus, three for station installation, and three for interior block wire and eleven for private branch exchanges and 11 per cent for 2274 booths, and special fittings."

"A. You see how timely the item is split up. We have a total cost of \$341,000 about, for that equipment; there is less than \$5,000 of that for booths. Now, to take off \$5,000 out of \$341,000 for a separate set-up where we must use approximations, is getting down to a degree of accuracy——

"Q. (Interrupting.) Mr. Hoag has brought to us actual figures and actual experience rather than theoretical, hasn't he? You say you just tried to get an approximation?"

"A. It is a well recognized factor in mathematics even in infinite forces that an approximation is all that we ever get. Now, it is utterly impossible where we have a factor like depreciation, that probably no group of engineers agree on exactly, one may say 8 per cent and another 8½ per cent——

"Q. (Interrupting.) And for that reason you bunched the whole business?"

"A. Bunched the whole business where one of the items is practically negligible. We have \$341,000, and we have an item in that \$341,000 of \$5,000, and as part of the item composing it, one of 5,000."

"Q. (Interrupting.) So you think that Mr. Hoag is hypocritical in having an exact figure on as small an item as \$5,000."

2275 "A. I think when you separate \$5,000 out of \$341,000 that it reaches a degree of absurdity."

"Q. Now, just exactly which one was absurd,—which is \$5,000?"

"A. The booths."

"Q. Well, he has applied the figure of 11 per cent to that, the larger percentage."

"A. Yes."

"Q. Which is the largest one of the items, station apparatus, station installation, interior block wire, private branch exchanges or booths and special fittings?"

"A. The private branch exchange."

"Q. Now, how much is it?"

"A. I do not know how much that is. The statement is made up of a number of the items and I happen to remember how small the

booths and special fittings were, and gave you that figure from memory."

"Q. Now, in making up an inventory and appraisal, a man who was doing that sort of work would bunch the whole thing together and say we have got about \$300,000.00 worth of this property."

"A. Oh, no, his inventory would show, but he would not carry the calculation across on each one of them."

"Q. Now, when he got the totals, Mr. Lyndon, why, it would certainly be accurate for him to apply the proper percentages?"

2276 "A. It certainly would, but he knows the proper percentages.

"Q. Of course, you say it is approximation, but it is not taken out of thin air. Approximation is taken from the experience of engineers for the last forty years."

"A. If the only test of the approximation you have to use is something that will happen in the future, not what happens in the past. Now, of course, the best guide you have is what happens in the past. Now, this is not a complete guide."

"Q. What is depreciation?"

"A. Reduction of value due to the passage of time and use."

"Q. Now, your idea is, that in forty years of experience with millions of details where accurate records have been kept by engineers of the performance that it is only an approximation as to what would happen with reference to any one piece of plant?"

"A. As to what will happen."

"Q. And the same thing is true of life insurance with reference to one particular man."

"A. True."

"Q. But on the average the life insurance companies come pretty near telling what the average life of a thousand will be, that's true, isn't it?"

2277 "A. Within some percentage. But there is always an error in life insurance computation,—a plague of influenza or any thing where they based their calculation totally—

"Q. (Interrupting.) But, so that over a period of fifty years their experience would come pretty near being accurate?"

"A. It comes more near being accurate than ordinary guess."

"Q. By the way, let's examine the matter of depreciation a little with reference to your theory,—under your theory you subtract a certain amount from the value each year?"

"A. Yes, which amount must be paid to the company."

"Q. If it had not been paid to the company, you still subtract it just the same, but then the amount will have to be carried over to the cost of establishing business as a loss. But we have your testimony yesterday, or you at least thought that the Supreme Court of the United States thought we couldn't carry our losses forward into capital account."

"A. In that case, Mr. Frank, you see this whole matter is merely an establishment of a capital account on which the company should have a fair return. Now, it makes no difference whether you have a half million dollars depreciation on your plant, and you never



collected but \$200,000 depreciation, and therefore suffered a loss of \$300,000 which is set up in another account, to your credit, 2278 or whether,—we will say having collected \$200,000 for the depreciation account, you can only put \$200,000 depreciation on it. It makes no difference where the accounts are carried, the final thing is merely to establish a fair value and a reasonable rate of return."

"Q. But the value is the same, regardless of whether you collect the income or not?"

"A. It should be."

"Q. The value is just the same."

"A. No, if you have collected a sufficient sum of money to have paid the proper depreciation each year then that amount of money should be written off the value of the plant."

"Q. Do you know of any utility in the world that does it?"

"A. I don't know what utilities do?"

"Q. Do you know of any Commissions in the world that requires it to be done?"

"A. I don't know of any Commission that does not require it. That is, whether the Commission requires or assumes that the value of the plant reduces annually?"

"Q. Yes. That is, reduces by the amount of the reserve for depreciation, is that your idea?"

"A. It reduces by the amount of the depreciation that is not set up, whatever that may be."

"Q. Name one decision by any Commission in the United 2279 States that holds you?"

"A. I can't name you a decision. I think I could show you one this afternoon. I will attempt to at any rate."

"Q. You say you read the Knoxville case, does the Knoxville Water case hold that?"

"A. As I recall, I believe, that the Knoxville Water case rejected the allowance of a depreciation fund, if I recall it now."

"Q. You testified in the street case case, and I thought—"

"A. I did in 1906 or 1907, but that's been some years ago and other things have intervened and I regret that I haven't a memory like a—I just simply have to refresh my memory from time to time. I don't remember anything about the Knoxville case except they fixed a lower rate than anybody who knows anything about a public utility would regard as a confiscatory rate. I think the net rate of the company was 4 per cent."

"Q. Don't you remember, Mr. Lyndon, that by the Knoxville Water case it was decided with respect to the depreciation that had to be subtracted that you couldn't use the 100 per cent new theory, but had to take into account depreciation in fixing the value?"

"A. As I remember it they allowed an insignificant sum for that."

2280 "Q. And that was physical depreciation referred to, also, wasn't it?"

"A. Well, it is quite probable it was a physical depreciation;

although on that I believe it was substantially the first case of its kind that we had in America."

"Q. On what question?"

"A. On the question of confiscatory rates with reference to public utilities."

"Q. Wasn't the case of Smyth vs. Ames, wasn't that in 1897?"

"A. (Interrupting.) I thought the Knoxville Water case older than the Smyth vs. Ames?"

"Q. Smyth vs. Ames is in the 169th U. S. Reports, and the Knoxville Water case is in the 212 U. S. Reports. Would that indicate to your mind which is the older case?"

"A. It would, but that was not my memory."

Mr. Howard: What is the sense of putting that kind of a question,—they are all matters of memory.

(By Mr. D. A. Frank:)

"Q. Now, as a matter of fact, just using common sense and regardless of what your impression is as to what some Commission or Court has found, wouldn't you say that a piece of property you started to value would have to be examined, and your opinion formed on the present condition of the property rather than by taking some theoretical figure from a book?"

2281 "A. You mean a determination of its condition by inspection?"

"Q. I mean look at it, inspect it if you want to, but wouldn't the best way to find out what it is worth be to look at it?"

"A. It would be indicative of how the plant is kept up. It would be an indication. You could see that everything looked good and the plant was in fairly good condition, or you could see the apparent condition,—you could get a general feeling of the condition of the plant, but as for determination of its condition, why, of course, that is utterly impossible."

"Q. For instance just take the amount of depreciation that you claim in this plant, of \$918,000 on the book figures as used by you of less than \$4,000,000 and you get a percentage of 74 or 75 per cent condition of the plant."

"A. No, not condition."

"Q. Well, what is it you do get?"

"A. Seventy to seventy-four per cent unexpired life."

"Q. Well, you called it value, you call it per cent value?"

"A. Yes sir."

"Q. You say the per cent value is 74 or 75 per cent of the cost?"

"A. Yes."

"Q. Now every other engineer that has testified in the case including your associate Mr. Kelsey, has testified that the plant is in 92 per cent or 93 per cent condition. Now, are those engi-

2282 neers all wrong?"

"A. No, they could be right if their definition of condition was proper. If by conditions they mean unexpired life they

are all wrong, but if by condition they mean the ability to operate, I should think they are too low."

"Q. You think it ought to be 100 per cent?"

"A. Yes, 99 to 100 per cent."

"Q. Well, that would be one thing that you and Mr. Allison agree on."

"A. Well, probably now you distinguish between ability to operate and unexpired life, for instance, you may have a pole that is carrying wires, and as long as that pole stands up and carries wire it is a 100 per cent pole, but the day after it has been a 100 per cent operating pole it may break off at the ground and then the life, expired, may be 99.9 per cent gone, leaving .1 per cent unexpired life and yet it may have 100 per cent ability to do the work until the period of time of life has expired."

"Q. All right, let's look at page 1 of your Exhibit No. 2, where you have buildings. You have buildings, \$280,496?"

"A. Yes."

"Q. Now, you have the junk value of \$106,560?"

"A. Yes."

2283 "Q. You have the depreciable value of \$173,936 and you have the accrued depreciation of \$30,295, and you have the present value of these buildings \$250,201?"

"A. Yes."

"Q. Now, theoretically the buildings are worth \$250,201.00?"

"A. Yes."

"Q. Practically the buildings are worth more than double that, aren't they?"

"A. No."

"Q. Well, what are they worth practically,—actually?"

"A. They are worth actually \$250,201.00."

"Q. Notwithstanding the fact that it would cost nearly \$600,000.00 to build them today?"

"A. Regardless of that. It, to my mind, is not related to the subject. It did not cost that, and what might have been if something else happens is not, as I can see it, one of the points. These buildings cost a certain amount of money and it is quite probable that in common with every utility, that money was raised on bonds, and therefore—

"Q. (Interrupting.) But they were not, Mr. Lyndon, because this company has no bonds."

"A. Well, as a general thing the money is raised on bonds and the investor who paid for that building, if that had been the case,—and this is a case where you radically differ from other utilities, if that had been the case, all the investor could ever get or hope  
2284 to acquire is his bond, his face value, that's the man who furnishes the money to put up the building."

"Q. Well, what about the man who takes the risk and puts up the building?"

"A. It is customarily assumed that the man that puts up the money is the man that takes the risk."

"Q. Well, if a man owns a lot by the Rice Hotel, his lot is worth

\$400,000.00, and he has \$200,000.00 in cash and borrowed \$400,000.00 from a trust company, making a total investment of a million dollars, is it your idea that the man who loans the \$400,000.00 is the only man taking a risk?"

"A. No."

"Q. As a matter of fact he is the one taking the least risk?"

"A. Whoever puts up the money, if a risk exists, is the one who takes the risk."

"Q. But the man who advances money on bonds is the one who takes the risk?"

"A. Not necessarily."

"Q. Doesn't he take less risk than the man who puts money in stock?"

"A. Yes, usually I should say that a man who puts money in a bond takes less risk than a man who puts his money in stock, but as a general thing most of the money that has ever been put in any utility has come, in the past, almost entirely from the sale 2285 of bonds. Now, then it happens that this isn't necessary in the case of the American Telephone & Telegraph Company, but no matter how you shift values on paper, the actual investor never gets any change in his investment, simply because on that bond he gets a return that is stipulated, and if values go down, why, it means, that somebody else has to suffer while he gets that return and if values go up he doesn't get any profit from it, and the real investor the man who furnished the money is always therefore tied to the original return regardless of theories or what happens."

"Q. Suppose the court was so beknighted that it couldn't follow your theories and wanted to find the value——

"A. (Interrupting.) Yes, sir."

"Q. Then he would have to go through some sort of mental process to find out what was the actual cost of the building, what it is worth now?"

"A. If he determined that he wanted to know."

"Q. And if, instead of finding the cost, he wanted to know the value?"

"A. And if he wanted to know what it would cost to erect such a building, now, why, he would have to go through the tribulation of detailed estimates, not too detailed, not too completely detailed, he could drop out several small items of a hundred dollars a 2286 piece and aggregate them under a general estimate, but it would be necessary to get an estimate on the cost of such a building at the present time, if such information were wanted, and if it were assumed that it would in any wise bear on this case."

"Q. Now, suppose he thought he had to find the value of the property, why, according to your idea, the figure that you have to put in is merely the cost figure and does not pretend to be a reproduction figure, then he would have to go to the reproduction method?"

"A. If he wanted the reproduction value, he would."

"Q. Now, if the Supreme Court of the United States holds the reproduction method is to be employed then this court would be

bound by the Supreme Court's rulings and necessarily would have to go through that process?"

"A. I don't accept their statement."

"Q. Mr. Lyndon, when we adjourned you were about to tell us why it was, or had been trying to tell us why it was that you took a very much lower figure for buildings although the actual cost had gone up very materially in the last few years, since the buildings have gone up here?"

"A. I did take the actual cost."

2287 I did take the actual cost but not the present value. I took the value of each object at its original value with the accrued change in value. Due to depreciation on everything except the land which had a negative depreciation, that is, instead of having suffered a reduction in value, from the time it was purchased, it had an increase in value, which is just as logical to apply, as to apply a reduction in value due to depreciation, which continues with the prospects of obsolescence or inadequacy or final wearing out. Of course, we all know that the buildings constructed here by the Telephone Company are never going to wear out, within a period of time that would be covered by any financial methods or assumption that now obtain, that is to say, if that building is maintained, I see no reason why it shouldn't be a good structure in fifty years, and so the question of its wearing out, as I view it, is wholly removed from this discussion. It will either become obsolete or inadequate, or the value of the property may under some conditions rise so high that it will actually pay to remove that building and carry your exchange somewhere else. It is the prospect that the usefulness of that building, so far as the telephone uses are concerned will pass within forty years, but certainly not that the building will wear out or rot out, or become useless as a building. Now, assuming that 40 years will be its useful life to the Telephone Company as a telephone exchange,

its value each year diminishes each year by  $2\frac{1}{2}$  per cent.

2288 "Q. If we had two buildings just exactly alike, one of them was built seven years ago and cost \$200,000.00 and the other one was built this year and cost \$400,000.00 your idea is one is worth just double what the other is and they are exactly alike, and that both of them will live one hundred and fifty years?"

"A. Oh, usually they do that. In one case you double the investment, in the other,—in one case you have double the investment in it and are entitled to double the return on it."

"Q. I am not talking about what we are entitled to, but am talking about—well, the facts are that we have two buildings just alike and on lots equally as valuable and you were valuing them at the present time, and one of them was built seven years ago, and the one was just completed; the fact that one cost \$400,000.00 wouldn't make it any better than the other one, which cost \$200,000.00."

"A. It wouldn't make it any better."

I do not see that it would make it worth any more. From one point of view it would, and from another, it would not; that is it would not be worth any more as a telephone exchange as affecting as it were, its usefulness to the company. That could not be helped

though if you had invested the money the public would—if  
2289 it were built at that time of high prices to fulfill a public need and public demand, it would be the duty of the public to pay a return on it.

"Q. I am not talking about duty, but am trying to get away from your theory and get you back to a common sense theory—

Mr. Howard (interrupting): What he wants to know is if the two buildings are both worth \$400,000.00, whether they are both worth the same.

(By Mr. D. A. Frank:)

"Q. Mr. Lyndon, let me re-state it to you: That is we have two buildings precisely alike on lots equally as valuable, but one was built seven years ago, but kept up in 100 per cent condition to the present time, and the other one just completed, but the later one cost \$400,000.00. Now, the question I am asking you is this; would the building built seven years ago be less valuable to the Telephone Company than the building just completed?"

"A. It would not be less useful to the Telephone Company and would not be less valuable to the Telephone company for telephone purposes."

It would have less worth as a portion of the assets of the company; it would have less worth by whatever small depreciation had  
2290 taken place, but including that, it would have less as a portion of the assets of the company. The cost would control as fixing the assets of any company, and furthermore, if it were not so, and there would come later a time when both might be reproduced for less than either of them cost, you would have to begin changing the worth of the buildings and everything else with every change in the market. At the present time I think one building would be worth as much as the other as an asset of the company, and another thing about getting to it, the idea as I understand it the value upon which rates can be predicated not for a few months, but for some years probably.

I understand what the court was trying to do at the present time is to try to determine the present value of the property on which rates should be based and rates which undoubtedly for the purpose of stability, would be made for some considerable period of time,—I was being asked merely about the value of the property, and the question of what is going to happen in the future is not before me, and I am trying to assist the court in arriving at the fair present value of the property. The present value of the property wouldn't have any value except as junk if there was no future possibilities of the company.

The future of a paving stone would probably be very brief.  
2291 I am unable to separate in my mind the immediate existing value of this company from its future operations. I do not take into consideration something else besides cost. I consider that the book cost is really the value, because in that case the company is protected, because no matter where values go in the future you



are not having to make additions at the top of the market, at the highest prices, and I do not regard it as fair to the company to place the possibility of that high cost to be eliminated, because at some future time when things return to their normal state again, they cannot then demand a reproduction value, and I would not regard it as fair. My view of the present value of the property is whatever the books show has been actually expended for it. Land is the only part of the plant that has gone up in value, and even though it would cost twice as much to reproduce one of these buildings I say it has not gone up in value. If we have a certain number of thousand feet of underground conduit, and that has gone up in price so it would cost more to reproduce it in my opinion that isn't worth any more money, and for this reason: you cannot dis-associate this element,—if you attempted to sell the building today and should be able to do so at something like the present cost of reproduction, and then attempt to sell some other part or draw out cables and sell them at the present cost of reproduction the balance of the plant

would be junk. You cannot separate the units and the only  
2292 criterion of that kind that you can possibly offer is the plant as a complete unit. Now, if there is a purchaser for the plant as a complete unit at a considerable higher price than it actually cost the company, the purchaser taking depreciation as well, it might be one element which would determine the value,—determine the value that would lie beyond the book cost, but to segregate each separate portion, to sell this for so much money, and that for so much money, leaving the rest as junk doesn't appear to my mind as being logical. You could not pull the land out from under the building and sell it, but, as I pointed out, it may be that the value of this land might appreciate to such an amount at some time that it would pay you to move the building somewhere else, and the increase in the value of the land would be such that you could not only pay for that, but take a profit besides. If that never happened, you would be just where you are today. The cost of the land plus its appreciation in value. The change in value and taking the equipment first, the change in value comes from the fact that you know that within some period of time, and what period of time is a thing which nobody actually knows, but within some period of time, the different elements of this equipment will have to be replaced; it matters not for what cause, at some time it will have

to be replaced, and if you assume some time based on fairly  
2293 good judgment *judgment* and previous history, then you will see how rapidly this change from its original cost to its junk value takes place, and if it takes place in a given number of years, it undoubtedly diminishes in value each year. That's so much for the equipment. That's assuming the life and assuming that the property will last just exactly that number of years and will be replaced in that number of years. Now, in the case of land, the land does not diminish in value, it doesn't wear out. That is practically true of all land in any American City; there are exceptions, of course that there have been drifts and movement of population away from a certain district and some land will diminish,

and if it does it suffers a depreciation, but as a general thing in any American City land appreciates in value. It is certainly so with the property that you have in use now. Now, there is nothing that can happen to that land that will require its replacements; that land will be there forever as far as we can see, and there will never be any occasion for its replacement. There will come a time when its appreciation in value will be such that you can sell it to some individual and move the building somewhere without interrupting the telephone service, and make a profit out of the transaction. Until that time comes you would count the appreciation because there is some character of increase in the land that is decreased in the value of the equipment. I do not merely take into account the  
2294 appreciation of the land in order to cut down my depreciation reserve; it makes scarcely any difference in your depreciation reserve, but considerably reduces your accrued depreciation.

"Q. You look at page 146 of your 1918 report where you set up a detail of something you mention on page 8 of your Exhibit No. 2 with reference to the San Antonio Board?"

"A. Yes."

"Q. Now, you criticized what was done there and drew certain conclusions from it. Now, tell me what your idea is as to what these figures mean with reference to the Board taken from San Antonio."

"A. Into the Houston Exchange. Just a minute, I don't know where I offered a criticism. I think I made just a simple statement. I do not recall that I ever criticised."

"Q. If you object to the word criticism, I will say said at least that the Board was worn out."

"A. No, on the contrary—"

"Q. (Interrupting.) What did you say?"

"A. I said that the Board had in all probability reached a condition where it was inadequate."

"Q. You say on the theory that the life of a switchboard is twelve and a half years it would have been replaced over five years ago, however, I understand it is still in good operating condition,  
2295 and may give service for some years to come. With a depreciation allowance of 8 per cent the entire depreciable value of the board was amortized some year-ago so that the depreciable value has been zero for around five years, and its remaining value is simply that of junk, and while that is not physically a fact it is financially true. Now, look at what you call the work sheet, which is set out on page 146 and just tell me how you arrive at the conclusion that I have just read in your exhibit?"

"A. Well, the conclusion is drawn from my understanding of the age of the board wholly."

"Q. Well, what happened there,—what does this work sheet or estimate amount to?"

"A. Well, the estimate first shows that authority is requested for doing certain work, which work is this: This estimate covers cost and installation of one relay central office equipment for 2,250 subscribers' lines and the necessary inter-office trunking facilities this equipment is that taken from the old San Antonio Exchange. The

estimate is necessary in order to care for additional growth, present board being equipped to its ultimate capacity." That is to say——"

"Q. (Interrupting.) We understand that, but explain the figures is what I am after."

"A. The estimate,—gross expenditures is \$39,800.00, that 2296 is new plant, plus cost of removal old chargeable to construction of new plant is \$39,150.00."

"Q. What is the \$11,000.00?"

"A. That \$11,000.00 less salvage,—that's the salvage that I assume was allowed to the San Antonio Exchange or the credit and that leaves \$28,800.00 as the amount chargeable to the Taylor Exchange."

"Q. And what does that \$28,800.00 mean there?"

"A. That \$28,800.00 is the amount of money which you have charged the Taylor Exchange after deducting the salvage and crediting the San Antonio Exchange."

"Q. It is, or that \$28,800.00 of the Old San Antonio Board is carried or is charged now to the Houston plant."

"A. Yes."

"Q. You would be surprised to find that it is not true, wouldn't you?"

"A. I would. That is, as I understand these figures, that the gross is a certain amount, and the salvage is a certain amount. Less salvage of a certain amount indicates that the amount is credited into a place from which it is taken. That is the engineering understanding of salvage."

"Q. But it is due to your engineering inexperience in telephone engineering that you don't catch what you will see if you look at the figure, that the \$11,000.00 is the salvage from the Taylor 2297 Exchange and not from San Antonio at all, the old Taylor Exchange, do you see that?"

"A. It is not indicated on this work sheet. The statement is made here very clearly on this estimate that it is to cover the cost of establishing additional facilities in the Taylor Exchange and that the equipment is taken from San Antonio."

"Q. But these figure are only treating of the actual cost charged on the books and the salvage credited to it in the Houston Exchange, and that alone there shows that the expenditures,—the gross expenditure in Houston,—in the Houston Exchange will be \$39,800 less the salvage that will be taken out of the Taylor Exchange of \$11,000 which will mean that the net expenditure will be \$28,800?"

"A. Well, the net expenditure is the figure we will be concerned with, and that is just exactly what I have stated that the net expenditure was, \$28,800, and the fact that I credited the salvage to San Antonio instead of the Taylor Exchange has absolutely no bearing on it. I assumed it was to the point where the switchboard was taken out which regardless of specific telephone experience is the customary assumption, that is, the place from which equipment is removed is the place to which it is customary to credit salvage."

"Q. Mr. Lyndon, don't you know that the account in Houston

2298 would not contain the salvage to the San Antonio Exchange, but that the books would be kept there in accordance with the facts and the time the salvage was taken out?"

"A. No, the account in Houston is the account, of the South-western Telegraph & Telephone Company involved two cities and while what you say was probably true——

"Q. (Interrupting.) Because of the fact that you didn't understand it, why, you jumped at conclusions and made assumptions there and that were not warranted by the facts?"

"A. No."

(By Mr. D. A. Frank:)

"A. Look at that Mr. Lyndon, can you recognize that the—in the first place, do you recognize that this is only an authority sheet, you called it a work order. You see the words 'Authority Sheet' at the top of the page?"

"A. Yes, this particular sheet is an authority sheet and the amounts in there are the estimates."

"Q. You recognize the fact, do you, that from the first line that we have just been considering the net cost of the switchboard as installed would be \$28,800.00 charged to the Houston Exchange. Do you recognize that? That is, if there was salvage from the Taylor of \$11,000?"

"A. If the total was \$39,800 and the salvage there was \$11,000, the balance would be \$28,800."

2299 "Q. Not salvage from any point, because Salvage from San Antonio would not be subtracted from the \$39,800. You would add the salvage if it were taken from San Antonio, don't you see that?"

Mr. Howard: Mr. Frank that doesn't follow.

(By Mr. D. A. Frank:)

"Q. Mr. Lyndon, if you can't see that——

"A. (Interrupting.) If you consider the property as a whole it doesn't follow, but if you consider the two exchanges absolutely separate then it would, that is, salvage credited to a part of the property, it diminishes the succeeding value of the board. That's a very obvious thing."

"Q. Will you take a pencil and a piece of paper and let me give you the items for the San Antonio Board so you can understand it?"

"A. Aren't they given on the following sheet?"

"Q. Not as far as I know."

"A. The details of material——

"Q. If you had known anything about economy or telephony you wouldn't have jumped at the conclusion that \$28,000 was the junk value of the central board?"

"A. I never have so stated."

"Q. Well, what have you stated?"

"A. I took the \$28,000 as the amount chargeable against the Taylor Exchange as a portion of the cost."

"Q. Well, you wouldn't have taken the \$11,000.00?"

2300 "A. If I had known the specific methods of the Bell Company, I wouldn't have done that."

Mr. Howard: That is the idea.

"A. (Continuing:) And I think the principal thing that I wanted to show there was the life of the switchboards is sometimes much longer than that which we assume. I understand, of course, the evidence has been adduced here to show that all of the switchboards removed, the average life is less than seven years, but did not include the switchboards all through Southwestern territory, which have not yet been removed."

"Q. That is the trouble with your whole theory, Mr. Lyndon."

Mr. Howard: Now, if the Court please, I object to Mr. Frank setting himself up as the Master in this case, because he is not. If he has those opinions about Mr. Lyndon, what he knows and he don't know, he should reserve those and argue them to your Honor, when we come to argue them, if you will hear the argument, but it is not a part of his duty now, because he is——

Mr. D. A. Frank (interrupting): I will put that in the form of a question.

Mr. Howard: Every time I ask about three words, you interrupt me.

2301 "Q. Mr. Lyndon, the assumptions that you indulged in are assumptions that grow out of the fact that you are not familiar with the telephone business, is true, isn't it?"

Mr. Howard: Now, Mr. Frank——

"A. (Interrupting.) I don't know——

Mr. Howard: Mr. Frank, that is a statement that should not go into this record because it is an unqualified statement of Counsel, who is not under oath, and besides it is a statement and one that ought not to be made.

The Master: Objection overruled.

Mr. Frank, and without any qualification, there are many things in the Bell System of Accounting and running its offices and a good many things about records of traffic and standards of operations which the Bell Company have adopted that I do not know, and that I would not have means of knowing without making an investigation of such an extended character that this city could not afford it. Either from the standpoint of the time consumed or the money required. There are many approximations I have been obliged to make, and which I believe to be in the main, correct, due to the fact, that I had only a comparatively limited time and a very limited fund to draw on. We have not been able, of course to take

up the matter in the detail that you have been able to, naturally there are many approximations, but I believe that every approximation that I have made has been in favor of the company. If it has not been, it has been an error of judgment because I have tried to make it so.

"Q. Mr. Lyndon, if the switchboard, if the parts of a switchboard that can be moved from one town to another are parts that don't wear out as Mr. Kelsey said here, they last forever, as he put it, whether they last forever they last quite a long while, for instance, frames don't wear out do they?"

"A. No, there is no reason why a frame should wear out."

"Q. And take the cables, a lot of those things about a switchboard?"

"A. For instance, I don't believe your jacks wear out. The springs may require replacing occasionally, but I see no reason why a jack should wear out; I mean in a reasonable time."

"Q. If we take a switchboard that costs \$26,000.00 at San Antonio and costs \$6,000.00 to install there, making \$32,000.00, we spend tearing it out \$1,100.00, making \$33,100.00, and we charged up \$15,100,000 for reserve for replacement over at San Antonio and took that just as its junk value of \$15,000.00 and take that and go and spend \$5,000.00 on it, so that we make it practically the same as brand new—a brand new switchboard and install it down here, carrying that part of the material at practically \$20,000.00, which it had cost—which had cost \$32,000.00 in San Antonio, would it be perfectly fair to do as you have done and assume that that switchboard has the added life at San Antonio and at Houston, shouldn't you compare it with a new switchboard?"

"A. A comparison with a new switch-board would hardly be a suitable thing for this reason; that regardless of how well you can rehabilitate that part, the only thing you can provide against is wear. You cannot provide against inadequacy nor obsolescence. That part has been induced a certain length of time and is started towards obsolescence even if not inadequacy. It reached inadequacy at one point, it is brought to a *pint n* point now, where it is wholly inadequate. It may become inadequate, but it is more likely to become obsolescent. What I am trying to point out is that inadequacy and obsolescence are real factors that cause removal of equipment. There is not much of actual wearing out and getting down to the point of where you can't proceed any longer to operate."

"Q. Well, but that is not the point we are discussing."

"A. It is in this way; that from the date that board is constructed until the time it will be removed permanently for some reason, there is a certain span of years, let's say twenty-five, fifty years, anything that is some time——"

"Q. But that is purely an assumption, isn't it?"

"A. No; it is a known thing that everything in this world perishes, and that is a matter of organic life or construction by mankind, fortunately. That isn't an assumption and I don't believe your engineers would say that is an assumption. I think they will



agree that a time will come when that board will be absolutely removed from service at all."

"Q. Well, that is stating a fact, of course, that is bound to be recognized."

"A. Yes, now, then, we must assume, we can't classify one specific board, we have no data on specific boards—one specific board, naturally its time of life is ultimately ended. We have to use the average of what happens to switchboards in general. Now, if we apply it to this board, we will say it has long outlived its theoretical life, which is my statement there, that theoretically this board perished six years ago; practically it is still working."

"Q. Doesn't that mean theoretically though that the entire plant put on the same basis perished on your theory and practically we could be operating a telephone plant here?"

"A. Unquestionably, which shows and would show that  
2305 the rates of depreciation have been taken too high, but we always take them a little too high. We are afraid something might happen for which we would not be prepared."

"Q. That would cause your values that you have assumed though, to be entirely too low, wouldn't it?"

"A. In this way, it might — that if the rates of depreciation were diminished, the accrued depreciation would be diminished and, therefore, the subtractive factor would be less, making the per cent value of the property higher."

"Q. Where would be the difference, Mr. Lyndon, in one section of the switchboard here in Houston, I don't say section technically, but one portion of the board which was practically the same as the rebuilt portion of the San Antonio switchboard, where would be the difference between the two, if the portion that was rebuilt was practically the same as a brand new switchboard and they were put together so that you couldn't tell, would there be any more obsolescence in the old section than there would be in the new section?"

"A. If they were put up at the same time, if one board is completely habilitated so that all the wear is eliminated and then it is identical with a brand new board that is put along side of it and the  
2306 two operate together under the same conditions, the date of obsolescence or inadequacy should be simultaneous."

"Q. There was an advantage wasn't there to the company and in a measure to the public in putting in that section of the switchboard, the net cost of which was \$28,800.00, over using the same kind of a switchboard brand new and paying, say, forty or forty-five thousand dollars for it, wasn't there?"

"A. It was the only rational thing to do."

"Q. So that you have no criticism to offer of the act of the company in putting it in?"

"A. On the contrary, if they did have a board that they could rehabilitate and put in, there would be a criticism if they failed to do it and bought a brand new board for the purpose."

"Q. Let's examine your exhibit a little bit on your License Contract or License Revenue, I believe it is your Lyndon No. 13. Now,

here you have considered nothing except the instrument services, have you?"

"A. That's all."

"Q. What do you know about the work of the General Staff for the licensee or for the Associated Company?"

"A. I understand that there is some considerable experimental work being carried on. Just how much of this work is done by the Western Electrical Company and how much is done at the cost of the A. T. & T. Company, as a separate organization, I don't know.

2307 Nor, do I know the value that the efforts of the "General Staff may be to the many thousands of local companies scattered about the country. I regard it as a Consulting Engineering arrangement."

"Q. Do you regard the financial arrangement by which this company has obtained practically all of the money that has gone into the plant, do you regard that as consulting Engineering?"

"A. No."

"Q. In the street car case, you allowed the Street Car Company \$252,900.00, for stock and bonds discount, didn't you?"

"A. Yes, because they have experienced it."

"Q. Now, if it had not been for the relation between the Southwestern Company and the American Telephone and Telegraph Company, there would have likely been some such experience as that on behalf of the telephone company, wouldn't there?"

"A. I should say so. You see the Street Railway Company is not kin or related to anybody."

"Q. Well, suppose the Southwestern had not been kin or related to anybody?"

"A. The Southwestern Telegraph & Telephone Company is an inseparable portion of another organization. The fact, that a man goes to the banker to borrow money and the banker—I mean some—

2308 I think are comparatively different; that is to say, you would probably have suffered the same sort of loss that the Street Railway Company did if you had a strictly independent local company, but to say that there is a credit to attach because you lend money yourself is a thing I can't quite gather."

"Q. Well, do we lend money to ourselves?"

"A. Well, if the American Telegraph & Telephone Company own the Southwestern Telegraph & Telephone Company, and one furnishes money to the other, it has that aspect."

"Q. Is the American Telephone & Telegraph Company a banking corporation?"

"A. I don't know whether it is a banking corporation, but I understand it is highly prosperous."

"Q. Well, how does it get money?"

"A. It has out securities which I understand, a large portion of which, I understand, was sold and that money came from that source."

"Q. Well, for the last several years it has been paying more than eight per cent on its money and we have been getting money

from them, the evidence in the case shows, that 5.88 per cent. Would you consider that of some value to us?"

"A. I don't believe that 5.88 per cent is any less than the companies,—up to the past two years, I don't know about before the past two years,—that highly solvent, permanent, prosperous 2309 companies have been able to borrow by paying that, without having any relation other than that of banker and customer."

"Q. The American Telephone Company, though has loaned this money to us from time to time, and they have taken stock for the notes. Will any banker do that?"

"A. I don't know that. I suppose that a banker will make a purchase of notes if he regards them as good and won't if he doesn't."

"Q. That practically amounts to taking stock for all of it. We have no bonds outstanding. The American Company has taken stock for it, but such money as they have loaned us, they have loaned on the basis of 5.88 per cent. You think that is not an advantage to us?"

"A. I think it would be an advantage that you don't have to go through the negotiations necessary to get money at  $5\frac{1}{2}$  and 6 per cent. But what I do know, and I know very definitely, that up to a year and a half ago on well secured loans that some money was being loaned on four and three quarters per cent."

"Q. But that was a loan. This is a stock proposition. How much stock could you sell on the basis of four and three fourths per cent?"

"A. To the public? Very little."

"Q. Well, where are we going to get money unless we get it from the public, unless we get it through that relationship?"

2310 "A. As the relationship is that of an owner, I can't understand just why the public should pay to the owner any amount of money, because the owner furnishes the money to his own property."

"Q. But that is actually costing him on your theory of ownership, it is actually costing him more than eight per cent and into the account has been charged only 5.88 per cent do you think that should be taken into consideration?"

"A. Unquestionably, but I never—this is the first time I ever heard or had the slightest suspicion that the American Telephone & Telegraph Company had to pay above 5 per cent for money."

"Q. You think that they can get money for 5 per cent, do you?"

"A. I did think they could get it around  $4\frac{1}{2}$  per cent."

"Q. Have you looked into today's paper or have you looked in a paper for a week to see the quotations on the American Company's six per cent convertible?"

"A. No, I have not, but we are speaking about the immediate present. We are speaking about the period of a number of years. Most of the money that has been put in this property was put in it about two years ago."

"Q. But we are talking about the value of this relation to The Southwestern Telegraph & Telephone Company."

"A. Yes."

2311 "Q. And do you recognize the fact that this relation was entered into at the time when The American Telephone & Telegraph Company was not the controlling factor in the Southwestern Company?"

"A. I did not know that there ever had been a time when it was not the controlling factor."

"Q. Well, the evidence in this case shows that the time the contract was entered into The American Company owned only thirty five per cent of the stock?"

"A. Well, if that isn't a controlling factor with the rest of the stock scattered, I would not know what one is."

"Q. It so happened though that one witness testified here with reference to about 35 per cent which he said that his company at the present time has the relation and the American Telephone Company has never exercised any control or attempted to exercise any control over his company?"

"A. I would regard an obligation—I regard a block of one third of the total stock in the hands of one control as the dominant and controlling element if the rest were scattered. Now, if as a matter—

"Q. (Interrupting.) You assume though that some is scattered?"

"A. Well, let me qualify that and finish. If the rest is in the hands of one party, then it would not be, but if that holding is the sole block of any magnitude, it seems to my mind unquestionable but that it would control?"

2312 "Q. Well, if it were in fact, in the hands of local subscribers—it might be quite the reverse, mightn't it?"

"A. It might."

"Q. Now, you have valued this 4½ per cent on the instrument service in the 1918 report, haven't you?"

"A. Yes, I valued that in the 1918 report."

"Q. Do you remember what per cent you took there for the instrument service?"

"A. No, I don't remember."

"Q. Now, your Exhibit No. 13 you have taken 18 per cent have you not?"

"A. Yes."

"Q. What did you take in 1918?"

"A. I don't know. We have a copy here."

"Q. Now, Mr. Lyndon, compare page 136 of your 1914 report and page 100 of your 1918 report and page 1 of your Exhibit No. 13 on Instrument Service. Now, in 1914, you assumed a cost of these instruments of \$2.50, 1914, \$2.50."

"A. Yes."

it? "Q. And in 1918 you assumed a cost of \$2.75, that is correct, isn't it?"

"A. Yes."

"Q. And in this report you assumed a cost of \$2.70?"

"A. Yes."

"Q. Just how would you assume a price of only 20 cents more for instruments now, than you did in 1914?"

2313 "A. The fact that 20 cents applies to all the instruments and that is for twenty-six or twenty-seven thousand instruments of which twenty-one or twenty-two thousand were in use in 1914?"

"Q. Well, do you think the same instruments are in use now?"

"A. I don't know whether the same ones are, but I believe those instruments, like a brook, go on practically forever. They are taken back to the factory at times repolished, renickeled and a screw put in here and there and sent out again."

"Q. Now, in your report for 1914, you had an annual charge for interest of eight per cent?"

"A. Yes."

"Q. But this year you used only seven per cent?"

"A. Yes."

"Q. Interest charges have gone down?"

"A. Not that; I am quite clear I think in my report why I had allowed seven per cent as the net return during the present time, instead of the usual eight per cent which is usually customarily allowed public utilities and that was that the war had put a brake on everybody and it was the duty of utilities to bear some of the burden."

"Q. Notwithstanding there was no Court ever held that, you are going to reduce the interest rate for public utilities?"

2314 I gave that as a reason for the recommendation to the City Council to limit the present returns at the present time, and until things got better.

The rate of return I assumed when I was talking about the street car case, I discussed seriously, six, seven and eight per cent. My recollection is that I testified that seven per cent was an ample return at the present time. My testimony does not show that I adopted eight per cent. The Court adopted eight per cent in his findings. I testified that eight per cent was a fair normal return for all utilities at the present time. It is not my recollection that I ever testified that eight per cent was the proper rate of return at the present extraordinary financial period.

In 1914, I adopted seven per cent for maintenance. And in this report adopted three per cent, that was used, that was due to additional data, which I got. You see in the 1914 report I took a great many things from the suggestions of the Bell engineers. Later when I made the 1918 report I got other and additional advices that indicated to me that the amounts used in the 1914 report was too high. I do not know as a matter of fact that the Bell engineers have used only one and a half and one per cent for maintenance. I got from some source that three per cent was sufficiently reliable to my mind to use, and seven per cent in 1914. For depreciation,

2315 but I felt at the time that it was too high still.

In 1914 I used eight per cent for depreciation.

"Q. And at the present time you use five per cent, whereas Mr. Rhodes testified to eight per cent, and Mr. Pennell to eleven per cent for depreciation?"

"A. Yes, it is my opinion that depreciation except for possible ob-

solescence, is almost negligible. They are so easily maintained and there is ample maintenance expense, but obsolescence overtakes them always, there is no question."

For general miscel-aneous in 1914 I used one per cent, and in the present exhibit I use three per cent.

In 1914 I used for taxes three and a half per cent, and for insurance one half per cent, and those items were left out of my present exhibit, the idea is that taxes are not based on full values at any time, and the amount that is necessary to take care of the taxes is included in that three per cent general and miscel-aneous item.

In 1914 I used twenty-seven per cent for an instrument charge, and in 1918 I used twenty one per cent without giving any details; that is on page 100 of my report, but I was under the impression that the details were given in there. I know that the items were  
2316 detailed. It is evident that they were detailed only on the working papers, and not detailed in the report, but I know that 21 per cent was the correct figure used by me with the details used. The percentage used by me now is eighteen per cent. Now, that eighteen per cent varies from twenty-one per cent, by three per cent. One of those per cents come from the change from eight to seven as the net returns. You have got the details of it. The actual cents that I allowed for instrument service in 1914 was 67½ cent-for instruments, and in 1918 it was 58 cents, while in my present exhibit it is 48.6 cents, so that I have come down from twenty-six per cent or 67½ cents to eighteen per cent or 48.6 cents for instrument service. I believe that the former percentages were too high, considerably too high, and in the case of the 1914 report, obviously too high.

"Q. Now, Mr. Rhodes, who testified on this, used the basis of twenty per cent and a valuation of the instruments at \$4.50, and Mr. Pennell who testified on it used a basis of twenty-three and a half per cent, and a valuation of \$4.45, so that Mr. Rhodes found the instrument service to be 98 cents and Mr. Pennell found \$1.10 as compared with your 48.6 cents."

"A. Yes, but their percentage was not far from mine, it was within two per cent. It was the charges for instruments that made the difference."

2317 I did not adopt a price of \$2.70 in 1920, for instruments which sell on the market according to my testimony as you people understand it for merely five dollars. I understand that they sell those parts furnished by the American Telephone & Telegraph Company, now sell from \$3.20 to \$3.30 is my understanding. Mr. Kelsey told me that. I don't know that Mr. Kelsey testified to that on the stand. I have not read his testimony, but I went over that with him and then I put that on the basis of the total number of instruments in use owned by the American Telephone & Telegraph Company and the set-up on their books for the total number of instruments is figured \$2.57 each on that basis.



"Q. So the only basis you have is what you remember that Mr. Kelsey told you about what the instruments sold for without knowing whether they were the same instruments or not?"

"A. No, the real basis is the seven million telephone sets owned by the American Telephone & Telegraph Company, with a book cost of \$18,000,000.00."

That is \$2.57 each, and supposing that were true I should think that necessarily would assume that the instruments in Houston were worth just on an average of what they would be worth; I would assume that, and I would think it was very logical, and a well based assumption.

2318 As to whether or not I got any quotations at any time on these instruments from the Kellogg Switchboard Company, or the Western Electric Company, I haven't had any quotations since 1918, and the quotations then I do not recall having gotten direct. I got them through a telegraph Company,—rather a telephone company.

Mr. Howard: Just a moment, Mr. Frank, you spoke about the open market for these instruments. What open market is there in this country for these parts?

Mr. D. A. Frank: Oh, there's a big open market, millions of them sold every year.

Mr. Howard: Sold by whom?

Mr. D. A. Frank: By the Kellogg Company, Stromberg-Carlson Electric Company, and the Western Electric Company, and there is some of them in St. Louis.

I do not know a specific instance, but I understand that the Western Electric Company is, say around \$160,000,000.00; the Kellogg is about \$6,800,000.00, and the Stromberg-Carlson is probably doing \$3,000,000.00. That is enough to make enough instruments for Houston. I used twenty-six thousand three hundred and eighty instruments in my set-up, and I think I took your January 1st, 1919 number; I am under that impression now. The number on December 31st would be twenty-seven thousand seven hundred and

2319 twenty-five,—about twenty-seven thousand eight hundred.

"Q. Now, do you know in addition to that, that there were 674 instruments at the switchboard that you didn't use, at the Central office?"

"A. I understand that that was a part of the C. O. equipemnt."

"Q. Well, it is a part of the C. O. equipment."

"A. Oh, it is a part of the apparatus furnished by the—"

"Q. (Interrupting.) American Telephone Company?"

"A. Yes."

"Q. And that there were seventy-three used for testing?"

"A. I didn't know you had that many for testing."

"Q. And for advertising there were five."

"A. Seventy-three and five."

"Q. And on a private line twenty-seven."

"A. I they—I thought they were included in the total number of instruments."

"Q. No, the total number of instruments were those that were being rented and that there were left on subscribers' premises twenty-six. I will give you the total, Mr. Lyndon, without your having to—"

"A. I want to see just how far the data here of property and equipment show these instruments."

"Q. And the reserve in stock was 842, making a total of 1,647 instruments furnished by the American Telephone & Telegraph Company that has not been included by you in this set-up?"

"A. How many?"

"Q. 1,647?"

"A. Correct."

"Q. If that figure is correct, that would mean an addition, wouldn't it?"

"A. It would unquestionably. If there is anything that has been left out, why——"

"Q. Now, pardon me, Mr. Lyndon."

"A. (Continuing:) If there is anything that has been left out why it should go in. There is no intent at all to omit any computation that you ought to have and then a little."

"Q. Now, Mr. Lyndon, you have great respect for the Wisconsin Commission, haven't you?"

"A. I have."

"Q. Did you know that they allowed the full 4½ per cent?"

"A. When?"

"Q. In 1916?"

"A. I did not know that. Before coming to a conclusion about it, I would like to read the case and see what mental operation cause that allowance by the Wisconsin Commission. I have always had considerable respect for it. I hope not to have occasion to lose any of it."

2321 Mr. D. A. Frank: Would you object to my reading just a little? The Commission says this:

In some investigations which have been conducted, investigators seem to have lost sight of the fact that the furnishing of the instrument parts is not only valuable services supplied to the associated company. In other words, there seems to have been an assumption that the agreement would necessarily be unreasonable because of the control of the associated companies by the American Company. In cases where investigators have failed to consider services other than the furnishing of instrument parts, we think that it is clear that they may not have made sufficient allowance for reasonable payment for services rendered. In other cases where reduction has been recommended, the facts submitted as a basis for such reduction are rather meager. The assumption not only of the complainant in this case, but of some of those who have investigated the four and a half agreement seems to have been that any agreement of

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this kind must be unreasonable because of the relation existing between the American Telephone & Telegraph Company and its associated companies. Now, notice this, Mr. Lyndon, it is our opinion that the ownership of the companies comprising the Bell System does not in itself prove the unreasonableness of any inter-corporate agreement which they have. However, any excessive charge which may be made to the Wisconsin Company by the American Company leaves their effect upon the rates of the Wisconsin Company and it becomes necessary not to prejudge the case, but to investigate the agreement in the light of all of the available facts to determine first whether or not it is unreasonable and second, the extent of any unreasonableness that may be found." Then they go on and approve the payment.

"Q. Now, did you know the Maryland Commission, the Colorado Commission, the Washington Commission, the Pennsylvania Commission, the New Jersey Commission, Louisiana Commission, and the Kansas Commission, the Alabama Commission and the Michigan Commission have and all of them with the exception of the Louisiana Commission, within the last seven years approved this relation?"

2323 Mr. Lyndon:

"A. I did not know that, Mr. Frank. I would be equally interested to know where it had not been sustained. If we had the ability to go into this with the same thoroughness, we might be able to cite a series of places where it has not been allowed. I judge that it has not been uniformly allowed every where; there has been some people, some Commissions and Courts that have not.

"Q. Well, what Commission has not allowed it?"

"A. I say if we had the ability to prepare this case, with the same thoroughness, we would probably be able to——

"Q. I think it is as reasonable as some of the other assumptions that you have made?"

"A. I think it is as reasonable as some of the propositions. Isn't it reasonable to think you will find reasonable people somewhere."

Let me say, Mr. Frank, that is my belief that whatever is furnished to the Southwestern Company, or to the Houston Company by the American Telephone & Telegraph Company should be paid  
2324 for in some reasonable rate, or on some reasonable basis, and it does not strike me that the services such as are rendered are properly fixed by a percentage on gross returns. I recognize that that was probably a mere convenience, but there should be a very definite showing of the money value that is received and that amount of money should be paid.

Supposing the Southwestern instead of getting \$42,000.00 services here was getting \$300,000.00 services here the arrangement would be an advantage and manifestly unfair. No company has the right to take \$300,000.00 worth of services and pay \$200,000.00 for it.

But, if the American Company is willing to take that from the Southwestern Company as to whether or not there is any reason why

the Southwestern Company should not avail itself of the opportunity, I would say as a corporation, it possibly would, but my view is, whatever services rendered should be paid for on a just and adequate basis. Now, I have been unable to find anything that this four and a half per cent covers, outside, of the very tangible apparatus which it furnishes, and which we try and make a conservative allowance for, except the engineering. I do not know that any services are performed in an accounting way that would be required if this were an independent plant and not associated with all the other  
2325 plants and not associated with all the other long distance plants and toll services, and it is further my view that accounting is necessary to properly distribute the profits, it is a system of necessity and convenience for that purpose and not properly applicable to the Houston local public.

"Q. How could that be possible that they would have to have a form of bookkeeping to properly distribute the profits, and all they would have to do would be to pay a dividend and cash the check to get the profits properly distributed, wouldn't they?"

"A. Well, that might be in a measure true, but there is a great deal of accounting which must be done by reason of a number of companies associated together, which is not done by an individual company. I understand, that the accounting force is sufficient to take care of the local business, if this were a strictly local company."

I do not believe that they need any assistance at all from the General Staff in accounting due to local traffic here.

As to whether or not they need any assistance in engineering, I think that every corporation needs certain engineering advice occasionally. The frequency and its amount depending upon largely the character of the plant, and on the character of the local  
2326 engineer in charge, or rather the ability of the local engineer.

"Q. You see we are considering say, \$14,000.00 for the rental and maintenance of these parts, furnished by the American Telephone and Telegraph Company. There remains about twenty-eight or thirty thousand dollars for some sort of service, around \$2,500.00 a month. That is, take it on your basis or take it on our basis and what you do allow, take it on the basis of the instrument value put on there by Mr. Pennell who is Chief Engineer of this Company and he valued it at \$1.10 per station as compared with your 48 cents."

"A. Well, in that case we would have twenty-seven or twenty-eight dollars a year, as the rentals.

"Q. Twenty-eight. Wouldn't you have sixteen hundred and something added to twenty-seven thousand, would be twenty-nine thousand and something."

"A. Well, say \$12,000.00 would be—\$43,528.00 and from that \$12,000.00 will leave \$31,000.00 for these intangible services."

I don't know how tangible they are. Take patents alone, if some patents that should be made this coming year would not be used by

the local concern, why, they might tax us \$1,000.00 a month on these patents.

If it is worth \$1,000 a month for the prospective possibility of a patent in a well developed art, which patent would be absolutely essential to the welfare of the company. That is the only thing to consider. But the possibility of any such patents and limited to the production of the general staff, to my mind, is extremely remote. The Independent telephone interests fellows tell me that the real progress has been made by the telephone people in the independent telephone manufacture. They say all the progress has been made by them. I did not investigate and find out exactly whether or not that is true. It would require possibly a year's study of all the details of telephone operations, who the patentees were, how fundamental they were, and all the rest of it to come to any conclusion about that. I did not make it as a statement of my own. I made it as a statement I have heard reiterated at different points from different independent telephone men. I do not know whether that is true or not, I have a belief that it is partly true and that the competition which they developed was instrumental in enlivening the general staff to produce whatever it might have. I do know this, that at the present time the independent companies are able to obtain apparatus which enables them to operate at as low cost as the Bell Company, and in the most cases, lower cost and give equally good service; I know that to be true.

There is no independent telephnoe company that gives service from New York to San Francisco, but we are dealing with a local situation here.

I feel that at the present time in a telephone case that seven per cent is a fair rate of return. My report in the Street Railway case shows that seven per cent was my recommendation to the Council for the present time.

"Q. On page 580 of your testimony in the street car case this question and the following answer were given by you: "Q. You say you have figured in there a return of eight per cent? Why did you do that?" "A. It has been a customary allowance by Commissions, and it is also my own view that that is a reasonable rate of earning for a public utility. "Q. How did that compare with the interest rate in the community during the period?" "A. I understand that the interest rate in this section, is approximately eight per cent."

"Q. That is it has been?" "A. Yes."

"A. I think there is some more testimony."

"Q. Is that correct, Mr. Lyndon?"

"A. I think there is some more testimony there."

"Q. Well, is that much of it correct?"

"A. That much of it is correct, a reasonable—it is unreasonable to continue this return over normal periods."

Mr. J. D. Frank: From 1896 to 1919.

"Q. Where—when did you testify to that?"

"A. That was in December or January. I don't know which."

2329 "Q. December or January, 1920?"

"A. But there is on record somewhere in the testimony, that I regard seven per cent as sufficient for the present conditions."

"Q. Well, why did you say eight per cent?"

"A. Well, the context and what precedes that may explain it."

"Q. What did the Master find in that case, Mr. Lyndon?"

"A. He found eight per cent."

"Q. And you still want to say that seven per cent is fair for a finding in accordance with your testimony that eight per cent was fair."

"A. It was not in accordance with my testimony at all."

"Q. The Master says this, on page 11, of his printed report: "All of the witnesses in the case use eight per cent as a fair rate of return. They all agree that the operation of a Street Railway property is attended with risks that do not attach to the ordinary security and that the greater the risk the greater the return rules should apply." Now, is that correct? Look at it and see if that is correct. On page 11 down at the bottom there on the page?"

"A. Yes."

"Q. That is the Master's report in the Street Railway, is it?"

2330 "A. Yes, testimony stands here plainly that I have always considered eight per cent as a proper return, but you will find somewhere that I stated that seven per cent was a sufficient return, but you will find somewhere that I stated that seven per cent was a sufficient return under the present abnormal conditions."

As to whether or not the Master did me an injustice in saying that all the witnesses found eight per cent, I agree that the eight per cent was a standard and usual thing so that it was not totally an injustice, but it was not indicative of all that I had said.

As to whether or not eight per cent is a fair return or not I will give you the same answer here, under ordinary conditions. It is my idea and always has been that a part of the burden should be carried by the utilities.

As to whether or not in an abnormal period like this it is very difficult for a corporation to get money, that is, more than it is in normal times and that they have to pay more for it, I have been recently informed that utilities have to pay more for money now than they used to have to pay for it. The decisions of all the Commissions that I know of, are that the rate must be sufficient to attract the capital. It does not take a commission to determine that. If you don't attract capital, you don't get the utility, that is all. I do not know, but I doubt if you could sell any public utility stock in the city of Houston at six per cent; I do not know if you  
2331 could sell it at eight per cent, and have no idea if you could sell it at ten per cent. I judge that you could. It would be my judgment that any public utility that was well founded and making a profit, that you could sell the stock at ten per cent, provided, of course that the limitations of earning was not such that the stock could never pay ten per cent.



Supposing that I was just like the street car company here or any other public utility, I could not do anything but hazard a guess as to how much stock I could sell at ten per cent. It would not be anything that would mean anything at all, and I might guess definitely now, and two days after discussing it with people around town, I might make another guess.

"Q. Three of the leading bankers of the city of Houston got on the stand and swore that you couldn't sell over a million dollars stock of the Telephone Company in this town, even if you were offering as much as ten per cent. Does that sound reasonable?"

"A. I don't know, I don't know whether they know anything about it either."

They are in the business of selling certain kinds of paper, and it may be that that very business blinds them to the fact that the public is ready to buy something else, I don't know. When 2332 they tried to sell stock and met with a rebuff of the public that would be a pretty good indication of what the public would do, and that would be an education, if they ever made any such attempt. Very few banks are constantly floating securities and trying to sell them. For instance, the Texas Company, if the Texas Company should want to sell \$50,000,000.00 worth of stock or bonds I doubt that some of them would be floated in the home town of the Texas Company here in Houston; it would be my opinion without knowledge, of course, that they would have that entire issue underwritten by some New York or Chicago house. They would not necessarily in get local banks to underwrite it. They might trade it around among a few of the banks in New York, and market the securities. For instance if it was an issue of \$5,000,000.00, that would be larger than any one bank would handle. It would be an underwriting syndicate, I should judge, for an amount of that magnitude.

The final figures that I give as the value of the telephone property in the city of Houston is the net value of the depreciable property, \$2,745,248.00; supplies and working capital, \$100,000.00.

I think the supplies and working capital that I allowed in the street car case was \$100,000.00 working capital and forty or fifty thousand dollars' worth of supplies. I don't recall that it was something over two hundred thousand dollars. I remember the 2333 working capital was \$100,000.00. I think the \$200,000.00 the Master allowed was working capital and stores and supplies. We have the record here I don't know, but we can look and see. On page 7 of his printed report where he gives working capital \$200,000.00, it is my belief that that includes stores and supplies. It is frequently put together, for instance, the telephone company groups them, I think \$165,000.00 is the telephone company's own estimate of its working capital, stores and supplies, as I remember it.

"Q. Now, the telephone company is a little bit larger corporation here than the Street Railway Company?"

"A. You see I have made estimates on both of these properties and we—

"Q. (Interrupting.) Well, haven't we got more working capital than the Street Railway Company has? Didn't you testify in that case that the Street car Company got their money in advance every day and had their money in the bank every night for the day's operations.

"A. Yes."

"Q. And the telephone company gets its money—

"A. (Interrupting.) In advance."

"Q. (Continuing.) From twenty to forty days after the service is performed?"

"A. No, the telephone company sends out its bills on the first of the month. There is undoubtedly a number of the subscribers that pay by the fifth; of course, a larger number that pay by the tenth; and there are some that defer it until the last minute, of course."

"Q. But, will the time ever come, Mr. Lyndon, when somebody doesn't owe us for services rendered?"

"A. I think not."

"Q. And how does that compare with the Street Railway? Does anybody ever owe them for services performed?"

"A. None of the public that patronizes the lines"

"Q. And the Street Railway Company, then with their money collected in advance all the time and having nobody owing them and having no outstanding accounts, were allowed by you \$100,000.00 working capital and that is what you think we ought to be allowed?"

"A. Yes, you see the Street Railway Company have much heavier expenditures than the telephone company. Their expenses in 1919 as I recall were \$1,400,000.00."

"Q. Well, they don't have to wait to make any collections at all, they get their collections every night don't they?"

2335 "A. Yes."

"Q. And they even get some of this money in advance, by selling of tickets don't they?"

"A. I don't think so."

"Q. Well, on page 489, of the record in the Street Railway case, I find this question asked you: Mr. Tucker says that Mr. Howard asked you, I guess it is direct: "Well, does that rule obtain in relation to the traffic company? A. No, it is the only utility I know of in which it does not obtain. The street Railway obtains its money in part each day. Q. Doesn't have to wait for any collections to pay off and even gets its money in advance? A. Yes, for tickets, where they sell tickets. A. And, at any rate gets actual cash at the time they perform the services? A. Yes. That is your testimony?"

"A. Exactly for tickets, where they sell tickets. They don't sell tickets here."

"Q. Oh, they don't sell tickets here, so that was just thrown in to amuse the Street Railway Company?"

"A. No, I had made a suggestion that the fare be raised and that one changed in which a proper income could be received without too greatly augmenting the fare, was by making the cash fare high and the ticket fare low, and selling tickets in advance. It was on the assumption that that general scheme might be used and, therefore, it was pertinent in that reply."

2336

(By Mr. Howard:)

"Q. They contemplate some such plan now, don't they?"

"A. They do, and I feel very sure it will be inaugurated before long, but not now, it is not done."

"Q. Go ahead with your final figures on cost value. I want to see where it comes out?"

"A. \$100,000.00 for working capital and stores and supplies and \$75,000.00 as the cost of establishing business, making \$2,920,200.00 practically \$3,000,000.00."

"Q. You put in about \$800,000.00 in the Street Railway Company property for "going value," didn't you?"

"A. Oh, more than that. It was nearer a million dollars, if I remember correctly."

"Q. Nearly a million dollars, you think they had a million dollars of "going value" and that we have got \$75,000.00?"

"A. On my definition of "going value" that is true. This is fair that they have about a million dollars, while I can only set up about thirty-four or thirty-five thousand dollars for the telephone company."

"Q. How did you check that? Where did you find that?"

"A. I went back at the beginning of the statistics that I had in the 1918 report."

"Q. Just tell us what page it is on, or just tell us what 2337 it was, Mr. Lyndon, you needn't get the exact details of it?"

"A. The records of the company shows a period of years in which there were no developments—

"Q. (Interrupting.) Well, this is not "going value" in the sense that we understand it, but it is under your theory that deficits—

"A. Yes."

"Q. And the million dollars that you allowed the Street Railway Company were a million dollars off deficits?"

"A. Actual deficits."

"Q. That is the company—you found out by examining the records back to 1898, that the company had lost a million dollars and you just added it to the valuation of the plant?"

"A. Yes, and in it—not a dollar of "going value" other than that, was added by me or by any other person, either for the company or by the city. Nor was any value other than that considered by the Master, as I remember the Master's decision, which I read a few days ago."

"Q. Will you tell us what the total of your cost value is, that you are standing on in this case?"

"A. Well, this is the total of the depreciable values."

"Q. Well, that is all right."

"A. That is \$2,920,000.00, \$2,920,248.00. Now, the cost value is \$918,000 more than that, because that is the amount that has been deducted for depreciation."

2338 "Q. But you are going to add that \$918,000.00?"

"A. No, there was an amount of money which after \$918,000.00 had been subtracted from it, left the \$2,745,000.00 that is the

original cost value of the property, of the depreciable property alone, was \$3,663,432.00."

(By the Master:)

"Q. What exhibit are you reading from?"

"A. This is Exhibit No. 2 Page 1. And adding to that \$100,000.00 the working capital and \$75,000.00 the cost of establishing business, the total cost value is \$3,838,432.00, that is new undepreciated property. Deducting the accrued depreciation of \$918,000.00 from that—it is \$913,100.00, but we will simply call it \$913,000.00 is about \$2,920,248.00?"

(By Mr. D. A. Frank:)

"Q. Now, what do you call the \$2,920,048?"

"A. That is the present value of the property?"

"Q. So you don't agree with any engineer that has testified in the case as to what the fair present value of the property is?"

"A. If they differ from that figure, I don't. Of course, you understand that it is the book cost adjusted less depreciation, no reproduction value has been considered."

"Q. You have not considered the reproduction value?"

"A. No."

"Q. But just figured \$2,920,048.00?"

"A. Right from the books, from the company's books."

2339 (By Mr. Howard:)

"Q. Mr. Lyndon, by taking the reproduction value of the company, even accepting that, you get, of course, another figure?"

"A. Oh, that would be another amount, and a considerably higher amount unquestionably."

(By Mr. D. A. Frank:)

"Q. This makes no pretense of being the present date reproduction cost?"

"A. No."

"Q. And this does not even pretend to be what the books show the cost of the property is?"

"A. It does not, in so far, as the seven or eight hundred thousand dollars intangible amount."

"Q. Well, how about that intangible amount?"

"A. That is not included."

Mr. Howard: Let him finish.

Mr. Frank: Go ahead.

"A. (Continuing:) That is not included and their \$165,000.00 which the company sets up as materials and supplies on hand and working capital and we regard \$100,000.00——"

"Q. (Interrupting.) Although there was \$200,000.00 allowed in the Street car case?"

"A. Yes, you see there was \$5,000,000.00 of property and practically double the operating expenses per annum for it, that you have here."

2340 "Q. Go ahead."

"A. This \$200,000.00 allowed in the Street Railway case, its proportion to the value of the property and the annual operating expenses is less than \$100,000.00 for the telephone company."

"Q. In spite of the fact, all of their money in this way — go ahead."

Mr. Howard: Mr. Frank, I would like for you, if you don't mind to get in the record briefly, Mr. Lyndon, where that figure you set up varies from the books.

"Q. Go ahead."

"A. So that instead of \$165,000.00 which appears on the books, I have taken \$65,000.00 less, \$100,000.00. The difference from the books——

"Q. (Interrupting.) Where does that appear on the books, Mr. Lyndon, you say it appears on the books?"

A. Well, it appears on the document sent me by the accountants, as having come from the company's books."

"Q. It came from the company's Exhibit. That was a figure used in 1917. The figure now is \$238,000.00."

"A. I will give you the amounts which appear on the company's books, as far as I have been able to determine them, from what the accountants sent me January, 1918 \$4,519,040.00."

"Q. January 1918?"

2341 "A. January, 1918, or December 31st. I just take January to throw it over to January, 1918, one day's difference. The additions in 1918 were \$111,960.00. Therefore in January 1919 the property as shown by the books had come to \$4,631,000.00. The additions in 1918, as shown by the books cost, \$237,600.00. Therefore in January 1920 the book cost of the property was \$4,868,800.00."

"Q. Now, was that without any working capital at all, wasn't it?"

"A. No, that included \$165,000.00 working capital."

"Q. Now, what was the last figure Mr. Lyndon?"

"A. For January 1920?"

"Q. Yes, the total cost as shown by the books?"

"A. \$4,868,800.00, now that is obtained by taking the book cost 1915-1918 and adding the book cost of net additions for two years subsequent thereto. Now if the book cost of additions are greater than this cost figure—these last figures must tally with the books."

"Q. Have you finished your statement, Mr. Lyndon?"

"A. Not quite. Now, those are the gross amounts as shown by the company's books with the additions given as coming from the company's books as correct for those two years. Now, they include the following: Complete toll equipment; \$723,000.00 loss on Hous-

ton Home purchase; \$165,000.00, working capital \$268,-  
 2342 000.00 of aerial wire; \$11,400.00 of office furniture and fix-  
 tures allocated to Central office and district offices, that is, in  
 1918, \$4,676.00 right of way. Those amounts are included in that  
 complete figure of 1918, and, therefore, continue in for 1919 and  
 1920."

"Q. And all excluded by you?"

"A. No. Now, for approximate real values, the following cor-  
 rections should be made: deduct the \$723,000.00 loss on the Houston  
 Home Company."

"Q. Although Mr. Kelsey says it ought to be put in?"

"A. I don't care who says so, President Wilson or the Cabinet or  
 anybody."

(By Mr. Howard: )

"Q. Mr. Lyndon, I would like to get those deductions there in con-  
 secutive order and continual order and then Mr. Frank, will you do  
 'nat and then question him about that?"

"A. (Continuing:) The first deduction is \$723,000.00 for the  
 Houston Home purchase; the second deduction is \$65,000 from the  
 \$165,000.00, leaving the working capital \$100,000.00 net. The  
 third deduction—

"Q. (Interrupting.) That includes supplies?"

"A. Yes. The third deduction is \$132,000.00 from the \$268,-  
 000.00 of aerial wire as set up in the company's books, because in  
 accordance with the company's own statement, which we had in  
 1917, that amount of wire was not there."

2343 "Q. You don't know what is there now?"

"A. What is there now, we have taken as the amount there  
 in 1917, plus the net additions for 1918 and 1919."

"Q. In other words, whenever you can find a figure that is lower  
 on reproduction, why use it?"

"A. No."

"Q. Go ahead."

"A. Whenever we find a figure that has any representation in  
 physical plant, we find it impossible to apply it."

"Q. Can you imagine how that came about, Mr. Lyndon?"

"A. I really don't."

"Q. What would you say?"

"A. I really can't imagine how that would come about, that there  
 was \$268,000.00 set up on the books and less than half of that  
 amount of actual property, which we did not say it was less than half  
 the amount, but the Bell Company says it."

"Q. But you got it in that 1914 inventory and the 1914 inventory  
 showed a number of other kinds of plants that were such in excess  
 and the wire plant, the books were over the inventory and wasn't the  
 explanation made to you at the time, that it came through attempt-  
 ing to get up the books several years before and arbitrary  
 2344 allocations made to Houston and that probably that was the  
 cause of the books showing a greater quantity of wire than  
 was actually used here and probably showed less of cable?"



"A. It might have been."

"Q. So that you take advantage of it to cut out \$100,000.00 of \$200,000.00 worth of our property without giving us credit for the greater amount of cables that is shown here."

"A. The final figures are not based on 1914. These figures here, are the last figures taken from the company's books and go down to and include 1917. Now, that—now, these were taken right there—

"Q. (Interrupting.) Yes, were based on 1914?"

"A. No, we haven't done a thing—

"Q. (Interrupting.) As far as aerial wire, where did you get any figure on aerial wire, except in Houston,—1914."

"A. Oh, our figures in 1917 in the 1918 report—

"Q. (Interrupting.) All came from the 1914 inventory as far as aerial wire is concerned, of course."

"A. I don't know that is true, but how would that make a difference? The whole of 1914, was priced on the actual inventory. If that is true, it wouldn't make any difference what sort of set-up had been made in the books."

"Q. Now, let's see, Mr. Lyndon, suppose in 1914 you had  
2345 taken the aerial wire and the aerial cable from the inventory  
or taken the aerial wire and the aerial cable from the books,  
you would have got the figures for the sum of the two that was com-  
parable, wouldn't you?"

"A. Yes."

"Q. But what you did was to take the aerial which the inventory showed was not in the plant, but you did not take the aerial cables which the inventory showed—of which the inventory showed there was an excess in the plant?"

"A. We had to—

"Q. (Interrupting.) Now, isn't that true?"

"A. No, it was—the 1914 report was a reproduction value."

"Q. Yes."

"A. (Continuing:) And regardless what the company had set up on its books as cost, the inventory would have corrected it, because we used the company's inventory and we used prices which, whether adequate or not, we had every reason to regard as adequate and those prices gave us certain values. Now, that was a reproduction value."

That was a reproduction value of those units that I testified about yesterday. So it was impossible for us to transfer, to take 1914, our valuation as the starting point, and then go from there on with the books. We would have a mixed sort of valuation. That isn't  
2346 what I did with the aerial wire; we took the book value of the  
aerial wire,—we took the inventory of the aerial wire,—we  
took the inventory of the aerial wire.

"Q. Yes, why couldn't you have taken the inventory value of the aerial wire, much greater than the books were?"

"A. Does that show so in our 1914 report?"

"Q. I think so."

"A. Well, if it does, you certainly are entitled to it and in order that there might be no mystery about this thing we have taken the

full book value and shown the specific deductions. Now, all this amount of money, there is \$132,000.00 that we put down as a deduction as which we thought ought to be made for aerial wire. If the statements that you make are borne out, then there should be some possible credit on aerial cables."

With reference to the difference between our books and our findings, then, the next item is to deduct the \$11,400.00 office furniture and fixtures allocated. We should deduct that because, as we understand it is not here in Houston.

"Q. Well, suppose it is not here in Houston, now, Mr. J. D. Frank here is General Attorney and fourteen per cent is applied to the Houston Exchange, nearly one hundred per cent has been  
2347 applied for the last three months, but if fourteen per cent of the time is applied to the Houston Exchange, ought not fourteen per cent of his office furniture and fixtures be applied to Houston?"

"A. As a general thing it might be so and there is another consideration, if the Southwestern Telephone & Telegraph Company did not exist at all and all the purchases and all the accounting and all the auditing and the entire executive staff of this company were followed up and was as it should be, how much more furniture than they have, would they need?"

"Q. Don't you know they would have at least five times as much as they have allocated here in this set up?"

"A. This office furniture, these desks and tables and chairs and even in this era of high prices nearly \$5,000.00 buys a great many of them."

"Q. Well, if they have an organization here of executives, including a president or vice president and somebody to correspond with the General Manager and the various departments that are necessary to run a big plant like this one, don't you know it would cost considerably more in office space and furniture and fixtures than is allocated to the City of Houston in the present set up?"

"A. If this were a local company trying its best to make a dividend I don't believe it would have as many high paid officials  
2348 on its payroll as \$11,000.00 of set up furniture would equip, I don't think."

That is just an opinion. It is a question on which there may be some differences unquestionably, but it does not seem to me that with the staff that is maintained here and must be maintained here, and which requires only \$8,000.00 worth of furniture to take care of, that to put in \$11,400.00 was for, as a capital asset against this company, that is not within the shooting range of Houston and take the view that much would be required for an Executive Staff, competent to manage this plant independently hardly seems to my mind a justifiable conclusion.

I do not know that this company could save a great deal of money by dividing up the State of Texas into a number of local exchanges like the City of Houston, and putting local organizations in to manage one of them locally instead of having a central organization at Dallas. If all the conditions are as they are indicated here, it

might, or might not be true. There is this about it. That the salaries paid might more than offset the interest in depreciation on \$11,000.00 worth of furniture, which simply to my mind does not appear to be a reasonable thing.

"Q. You just wasn't used to an organization that have a general expense of this kind?"

"A. Yes, I think so; I think so."

2349 "Q. Well, what experience have you had with corporations with much general expense?"

"A. Well, I was there some at the Edison Works."

The Edison Works is a local concern in that they operate in West Orange and they have the cement work eighteen miles away and they have other works four miles away. It is not going a thousand miles away, nothing except district offices, no manufactory.

\$12,000.00 was one item which I regarded as an amount in excess of what should be charged. Now, then the total of those items is \$936,000.00. Now, added to that or subtracted from that the cost of establishing business, \$75,000.00 left a total deduction \$861,000.00. Now, if those deductions be made from the gross book values, we find as the corrected values that without depreciation, January 1918, \$3,658,000.00, January 1919, \$3,770,000.00, January 1920, \$4,700,000.00. Now, these are all about \$160,000.00 high, due to the fact that instead of taking the real estate at its cost, plus the change in value, plus and minus change in value, we took the real estate at the book value and at the book value at that time which was \$35,000.00 more, just to stick to the book values. Also, we have taken the deductions for the Houston Home Telephone Company at the amount of the set up, at the amount of the set up by the South-

western Telephone & Telegraph Company of \$723,000.00,  
2350 when as a matter of fact, it was more than that. When you take the depreciated values at which they were put in, that accounts for the apparent discrepancy of \$160,000.00, between these figures and the figures in Exhibit No. 2, but they are close enough for practical purposes of computation. Now, the deduction for accrued depreciation, for depreciation to January 1918 was \$750,050.00. Now, deducting that from January 1918 values there remained as the net value of the plant, January, 1918, \$2,980,000.00.

"Q. Do you doubt, Mr. Lyndon, that the books—that the book entries of \$4,810,385.40 as put in Scott's Exhibit No. 10, and that was only up to October 1st 1919, I believe the figures you have are \$4,858,000.00."

"A. Yes."

It is my opinion that the books represent, and it is my opinion that the books should represent or show the actual cash expended in the City of Houston for all property work, overhead and every other expenditure. This figure of actual cash expended is the money; minimum or maximum. It is the money spent. There is no minimum or maximum to a fixed absolute unchangeable amount.

Supposing that there were quite a number of expenses such as

2351 interest during construction, engineering and general expense, that prior to 1908 and 1910 were not charged in the books then the company actually spent money for those items. It is true that if they were not charged on the books it would be out of the company's treasury, but would not be reflected in the books; anything that the company pays that were not written on the books means that the books show that much less assets than the company should have; there is no doubt about that, but if they were paid out of operations and charged to operation, then were taken care of in that amount. I understand that the reason these things are true is there has been quite an advance of art in bookkeeping in the last ten or fifteen years for public utilities particularly, and it is my understanding that the telephone company in common with other utilities has been trying to improve its bookkeeping,—trying to get more nearly in accordance with the facts, but it was never my understanding that the books would reflect less than the amount of money paid out, because money has to be accounted for. As to whether or not it might be accounted for on the company's books in the general office and still not be allocated to Houston, I doubt if an expenditure actually incurred in Houston would be omitted. I see no reason why it should be. I mean intentionally omitted, of course, there are errors in keeping books.

2352 "Q. Well, suppose in 1905, just to suppose a case, there had been \$50,000.00 of construction put in the sub-station and that a fair engineering charge on that would be five per cent or \$2,500.00, and that under the system of keeping books at that time, nothing was put in at Houston, *than* the books at Houston would only show \$50,000.00, whereas it ought to show \$52,500.00, isn't that possible?"

"A. What the fair engineering charge to my mind would be would have nothing to do with it."

The actual engineering charge would be whatever it is, if it should be \$2,000.00 or \$3,000.00.

"Q. Well, say it is an actual engineering charge, and they failed to put it on the books."

"A. Well, in several rate cases the question came up, we did not incur this engineering charge, but it would be fair to incur it."

"Q. We don't say that."

"A. I just want to say that, that the failure to incur it has probably been a burden on the public ever since because the thing is not properly engineered."

"Q. In 1914 inventory, there were probably a few items where the inventory was more than the books, for instance, the central office equipment was \$8,000.00 more than the books, the aerial cable was \$34,000.00 more than the books, the underground  
2353 conduits was \$38,000.00 more than the books and the underground cables \$52,000.00 more than the books. Now, if you are going to take the inventory as the starting point, why those figures should be used instead of using the books, oughtn't they?"

"A. No, the books ought to show the two costs."

"Q. But, they don't do they, Mr. Lyndon?"

"A. But the inventory there is a reproduction value. It simply showed as far as we were able to——

"Q. (Interrupting.) Well, the wire was a reproduction figure too, wasn't it."

"A. Yes, every figure in there was a reproduction. In the 1914 report every figure in there is a reproduction figure. Now, they were the best figures, which we as engineers for a municipality that wasn't going to build any plant and everybody knew it, they were the best figures we were able to get."

"Q. Well, the figures that you use today are the reproduction figures of 1914, aren't they?"

"A. No."

"Q. Well, what is it."

"A. The figures as shown by the books of the company."

"Q. Less the difference between your inventory and the book figures in 1914?"

"A. Not less anything—oh, less the difference between the amount of wire in the unit prices they are not concerned now. The  
2354 amount of wire on hand in 1914 did not correspond with the books, it was not there, the inventory showed it was not there."

"Q. But the inventory did show there were other items of plant there that were greater than the books showed and you didn't take those into consideration?"

"A. There were other items which under the reproduction cost at the prices we were able to get showed a greater amount of money necessary unquestionably. But, we did not at that time, it is a subject, of course worthy of consideration, but I am not sure it is true now regarding the difference as accruing from the fact that less wire had been charged or rather more wire had been charged on the books than existed and less of cable and central office equipment. There is no rational explanation of that."

"Q. The difference between the books on aerial wire, there has been just about as much one way as the difference on other parts of the plant was the other?"

"A. I don't remember about that. If you have looked it up and that was the case, why, of course, it is."

"Q. Well, coming down to the final figures, you take a figure less than three million dollars after you have adjusted it as being what you consider the adjusted present value, if I get your terminology——

"A. Less depreciation."

2355 "Q. Less depreciation as compared with an investment of the company of four million, nearly \$900,000.00 in the City of Houston."

"A. Some of that is not investment as we see it."

Mr. Howard: He has just gone all over that.

"Q. Can't you see my terminology well enough at least to say, our book entry is \$4,900,000.00, and that your finding is something—almost \$2,000,000.00 less than our book figures?"

"A. It is around a \$1,800,000.00 total and your book figures for all your expenditures new——

"Q. (Interrupting.) Yes, four million and nearly \$9,000,000.00.

"A. \$4,868,000.00."

"Q. Now, of course, if the plant has any value at all as a 'going concern', why that would have to be added to whatever the book cost is?"

"A. Oh, certainly."

"Q. Now, I think we understand what your figures are now, Mr. Lyndon. Just why did you take six per cent with the telephone company instead of taking eight per cent, why didn't you set up at least one combination of eight per cent? Have you anything else to say except what you have already said about utilities bearing their part of the burden?"

"A. Nothing else."

2356 "Q. Well, there is no reason to go into it then, if you haven't anything else."

"A. I have nothing else to say. That six per cent was set up as a figure, as a tentative figure, to see just what the result would be. Now, it is not a statement on my part at all that six per cent is the limit of the amount which a public utility should receive."

"Q. If you set up eight per cent, it would be considerably more, wouldn't it?"

"A. It would be 33 1/3% more."

"Q. It would be 33 1/3% more?"

"A. It was a tentative figure, to see just about where——

"Q. (Interrupting.) That is the gross figures would be about thirty three and a third per cent more?"

"A. (Continuing:) Well, it would carry—yes, the gross figure would be that. Well, now that would be the net return, so that the net figure would be thirty three and one third per cent more."

But I am very definitely on record in a large number of cases, that eight per cent is a proper rational return and under ordinary conditions, for any public utility, and that seven per cent is a proper return until we get away from this period of inflation of wages and every other cost that a utility and an individual now suffers. I do not think that every increase in price should be passed on to the consumer, or to the user of your service and then a continu-  
2357 ous flat eight per cent be maintained.

I did not hear the testimony here that you would have to have five hundred thousand dollars of new money the coming year if you would take care of necessary improvements in the city of Houston, but I believe it to be the fact. I do not see why you should have to pay more than eight per cent for that money. I do not know of any place where you can get it for less than eight per cent; we borrowed some in December for four and a half. I do not know whether or not you can operate on borrowed money for permanent investment in plant; other utilities seem to borrow money.

"Q. Well, just set up a financial scheme, if you don't mind, just show us how we can run this utility here where we have got a big



cost we claim of a little less than five million dollars, and we claim we have a valuation here of around seven million dollars, just tell us how we can go out and borrow money to run this utility for the next year?"

"A. That I don't know. I would have to have a great deal more information about the financial condition of your company than I now have to form any definite idea, but I have always been under the impression that a solvent corporation, particularly one that is under rate regulations, is allowed to earn a reasonable return  
2358 on the investment, as decided—and was solvent, could go out and borrow money for needed improvements."

For the last four years for a part of the time you have been earning a reasonable return here and part of the time you have not. The part of the time that you have was the twelve months that the government had the lines. I do not know whether or not it earned it here, or whether it came out of the Bell properties somewhere else. I did not make an analysis of it, including that return that you received from the Government because it was no way to come to any conclusion about either the then existing rates or the future rates because that was a sporadic thing that was listed in it and then taken out.

"Q. But your 1918 report shows on the basis that you have there, that for that year or the year just previous, the year that you considered that we lost \$118,000.00 that is, the \$118,000.00 less than a fair return on the basis of six per cent or six and a half per cent, which was it you used?"

"A. Well, as well as I remember it was \$102,000.00 and I predicted that in the next succeeding year, you would be under about twelve or fourteen, maybe sixteen thousand dollars more net expense than you had been for the period on which we had reported, but it was over \$100,000.00."

2359 It was over one hundred thousand dollars and that was on the basis of seven per cent. On the basis of eight per cent there would be twenty-four to thirty thousand dollars more added to the figure that I found there as a loss and it would be about one hundred thirty thousand dollars. It would be about that if you omitted totally the Government intervention. Just take it on five and two and it would be rational,—it would be roughly that, I think without making the computation, unquestionably a loss of over \$100,000.00. I don't know it to be true that in view of the increased cost of all classes of labor at the same rate that you would be losing considerably more at the present time that you did in 1918, but I regard it as probable; it sounds reasonable at any rate.

"Q. As I understand from your set up there, that where you find \$136,000.00 actual depreciation that was what you consider from a financial standpoint that the property was worth each year, worth less than that I mean, that was the decrease?"

"A. For that particular year, that decrease may grow greater as you add property."

"Q. Yes, now that has no connection with a set-up for reserve for replacements such as we understand it?"

"A. None. The first thing the public is concerned with and must reimburse you for; the second, the public has no concern  
2360 with at all, it is a matter of your own financial decision as to what you will do with your money."

"Q. Just a word with reference to the Federal Income Tax that was thrown out by you as being not a proper charge, in the local expenses in the City of Houston, it would have to be thrown out everywhere else too, wouldn't it?"

"A. Certainly."

"Q. Now, you allowed it to the Street Railway Company, didn't you?"

"A. No sir. No, that was definitely protested against. That is one thing that I have never been able to comprehend, why an individual must carry a burden on his net income but a corporation can escape it by passing it to the public. I don't regard it as—

"Q. (Interrupting.) Now, on page 956, of the record in the Street Railway case, speaking about this very fact, the question was asked: Q. So that you yourself would not bear any real war burden, if you could help it, is that a fact? A. Possibly not, with respect to producing of personal incomes. I might disburse some of that income to carry some part of the war burden, as a matter of fact I am doing it, and am compelled to do it under the income tax."

"Q. And this corporation is likewise compelled, isn't it, the question about that, you have seen the books, you know that we  
2361 pay some income taxes? A. Yes, that is true, but these taxes have been regarded by me as a part of your expenditures and all of my figures are based on your net returns after you get all of these costs paid." Now, that is your testimony in the Street Railway Company case, isn't it, beginning at the bottom of page 956?"

"A. Yes, but this statement is probably absolutely true that they were included, but not that I approved their inclusions, that they were put in simply—

"Q. (Interrupting.) Well, you did not even include them once, did you?"

"A. I don't remember, I think they were included."

"Q. Now, if you did not include them—

"A. (Interrupting.) Now, let's see, a question of whether I have ever in my life included an income tax for any corporation is here; I never have. I don't remember why they were included in this set-up. There is evidently, there must be some explanation somewhere in this testimony about it."

"Q. Well, just analyze the fundamental question involved a little bit, Mr. Lyndon. Just why do you exclude it?"

"A. Because the tax is on net income."

"Q. Yes."

"A. And every individual that has any net income must pay that tax and must carry the burden. It is part of what  
2362 he must do after he makes his money and pays all of his expenses and I cannot understand why the same rule would not apply to a corporation."

(By Mr. Howard:)

"A. Well, Mr. Lyndon, net income has to be determined before the tax applies, doesn't it?"

Of course, that is what I meant to bring out. It is the net income before the tax is applied and then the tax is applied to net income and the purpose of the public is to pay you a return on the net income, and then the Government takes an income tax."

"Q. All right, let's see if it wouldn't be just as long as it is broad. Assuming that ten per cent would be a fair rate of return to a utility, if you can assume that?"

"A. Yes."

"Q. And that one per cent would be the income tax. If it took ten per cent dividends to attract money into the corporation, isn't it a fact, that the man who had the money, if he was going to pay the one per cent out of the ten per cent would get eleven per cent instead of ten per cent for his money before he would turn it loose to the corporation?"

"A. I don't say that at all, because one per cent will be deducted from him, wherever he puts his money."

"Q. Does the stockholders get any credit on account of the fact that this had been paid by the corporation, that the taxes have  
2363 been paid by the corporation, before his dividend was paid to him?"

"A. As I understand that, the fact that the money is collected at the source, does not relieve him——"

"Q. (Interrupting.) Is there any money collected at the source?"

"A. I don't know the laws on that. I have always been of the belief that when the Government collected on income tax, on income, it was done with it."

"Q. Well, suppose a corporation with \$100,000.00 capital had, free of everything else, \$11,000.00 except it had not paid its income tax and that income tax amounted to ten per cent or what would be called by the Government net income. Now, that would produce \$1,000.00 net income as far as the stockholders were concerned, wouldn't it, I mean \$10,000.00?"

"A. Nine-tenths of one per cent would be that, but I see what you mean. Yes, that would be true, if the Government took a thousand it would leave ten thousand."

"Q. Now, just what is the difference between the Government taking \$1,000.00 and calling it income tax and it taking \$1,000.00 and calling it property tax, how do you differentiate between them?"

"A. This, that the net income of any individual or corporation  
2364 is a thing that the Government takes a certain amount from and it is a variable amount and it may ultimately disappear. It has grown to the dimensions it has due to extraordinary conditions, though—no individual escapes it, and individuals do escape those other taxes."

"Q. Now, isn't that true of the advalorem tax, everything you have just said?"

"A. No, there are many individuals who have considerable income and who are subject to practically no other taxes than the income taxes."

"Q. Are you aware of the fact that in this State there are no exemptions at all, that everything is taxes, personal, realty and every sort of property, except, of course, Geovernment bonds or City Securities?"

"A. There are men who are making from twenty to twenty-five thousand dollars a year and who have not got any other kind of property?"

2365 As I stated yesterday the figures that I have worked out there in my exhibit No. 2 means that the plant, according to my theory of the cost value, went down by the amount of \$156,000.00 a year. That figure is the amount that you would have to have to compensate you whether you put in replacement or whether you did not. That figure is meant to give you the money to provide replacement, provide for them when the time comes. Whether replacements are put in or whether they are not, has nothing to do with the fact that the property you have has diminished in value that much and you have to have that much money from some source to keep your investment at 100% of its value.

Suppose that you had a pole that cost \$10.00 to put down, according to my theory of it, if it is going to last ten years or 12½ years, a certain amount ought to be collected each year to take care of that. Of course, if the people that made out these life tables that I have used apply it to 100% of the property and not to the depreciable, it would cause an adjustment of those figures in itself.

If you have a switchboard that cost \$100,000.00 and you want to set aside a reserve for replacement, regardless of any valuation question, on the theory that the switchboard comes out on an average of ten years, and that when it does come out, there is a 40% salvage leaving 60%, it would cost in 10 years in order to be sure that we would set aside enough you would have to set aside \$6,000.00 a year to take care of the depreciation on the switchboard, that is

2366 on the straight line theory, which is the one I would use.

And the same thing would be true of every other item of property. It is true that if your experience shows that for a number of years, six or eight years, that you had a realized depreciation of around ninety or one hundred thousand dollars a year, you would know that you would need more money than that to take care of large items like switchboards that would come out later. The property that you would be replacing in 1918 would, I should think, be on an average of less than ten or twelve years old. Whatever it would be, it would be an aggregate of various lives, something you would replace would have had a short life and others would have had a long life. So that, the reserve for replacement which ought to be set aside now if the plant has been going continuously eight or ten years ought to be considerably larger per year than the near realized depreciation. In other words, the realized depreciation, if it could be taken on any one part would be merely a measure of depreciation of property that according to my theory might be

something like ten or twelve years old, might be older, and it might not be so old. Possibly it would not be less than eight years old, but it is probable that you have situations in which you can set poles that are subjected alternately to dry and wet conditions that they will not last five years. You do find that sometimes That would be individual poles and would not be of a general character. The average would be ten or twelve years and some might last longer. Public requirements and inadequacy would tend to bring the average down, would tend to limit the life of the poles in a plant of this kind. It would be around twelve or twelve and a half years I

2367 should say. A plant standing still that was completed and had not been added to for a number of years would tend to get into a cycle so that you could determine pretty well what amount would be necessary to set aside for reserve for replacement, but that would be after a very long period of time only. There are certain portions of a telephone plant, in fact, of any utility, that are much more expensive than other portions and the life of those units when once ended cover a heavier expenditure during that portion of the cycle than other portions and you would have to go through a period in which you practically wipe out the original equipment in order to get a fair average of a plant that was stationary, but it would be somewhat indicative after say ten years. But a plant that has been growing as has the Houston plant, just assuming our off figures for the sake of argument, from about \$200,000.00 in 1901 to the book cost now of \$4,800,000.00, evidently your realized depreciation would be applicable on an average to a plant that was somewhere in the range of from eight to twenty years. So that if you took your realized depreciation by years and determined what percentage that bore to the cost of the property on a basis of six years, eight years, ten years and twelve years before, it might throw some light on what was the proper percentage to set aside as reserve for replacement,—it would be indicative, but the whole subject would have to be analyzed to see whether too high or too low, it might be either. It would simply be indicative.

“Q. Mr. Lyndon, I show you a compilation made by Mr. Hoag. These figures have already been introduced in evidence. The  
2368 paper which I hand you will be copied and introduced in evidence as an exhibit in the case, in column 1, in the number of years, 1901 to 1919, in column 2, is what is called the average book cost which can be taken from the evidence in this case put in by Mr. Scott. In column 3 is the amount of realized depreciation by years beginning with 1909, back of which it is not possible to get it, and in the next five columns is the percentage by years, going back twelve years, ten years, eight years, six years and four years. The realized depreciation for 1909 appears to be how much by this exhibit?”

“A. Twenty eight thousand and twenty seven dollars.”

For 1910 the realized depreciation, that is, the actual money spent for replacement is \$18,554.00. For 1911, \$52,568.00. For 1912 \$183,903.00. For 1913 \$121,397.00. For 1914 \$57,748.00.

For 1915 \$115,171.00. For 1916 \$157,372.00. For 1917 \$152,600.00. For 1918 \$74,662.00. For 1919 \$32,178.00. That is an average for the 11 years of \$90,380.00. The year 1913 the amount of realized depreciation in that year was \$121,397.00, applying that to the book cost for 12 years prior thereto, which would be 1901, the percentage is 42.2% of the book cost of 1901. For the tenth year it would be 27.8%; for the eighth year 20.8%; the sixth year 17.8%; the fourth year 11.7%. For the year 1917 it is 26.1%, realized depreciation in percentage down to 1919. For the 10th year 17.3%, for the 8th year 14.8%, for the 6th year 9.5% and for the 4th year 13½%.

For 1918, 10.2% for the 12th year, 8% for the 10th year, 2369 6% for the 8th year, 3.6% for the 6th year, and 3% for the 4th year.

For 1919, 3.7% for the 12th year, 3.4% for the 10th year, 2% for the 8th year, 1.4% for the 6th year, 1.3% for the 4th year, making an average for the 11 years——

"A. (Interrupting.) 22.1% for the 12th year; 19.8% for the 10th year; 13.1% for the 8th year; 9.1% for the 6th year and 6.8% for the 4th year."

Those figures would indicate that in 1918 and 1919 there was not very much reconstruction work and I judge that was due to the heavy reconstruction work or replacement work that preceded in the two years immediately prior to that. That was during the war restrictions, when the Government wouldn't allow any building, but your replacements the two years prior to that were very heavy, and it is probable you brought the plant up to condition where replacements were not very much needed in those two years. That is the way it would look from the amount you spent,—the heavy amount you spent in the two prior years. If the evidence in this case by one of the witnesses was to the effect that you would have to spend \$500,000.00 here in the next year or two, just to catch up with the reconstruction requirements, that would make a five year period, practically, in which you have spent only about \$90,000.00, so it would leave the five year period at \$100,000.00 a year, and would be about normal. That would be about normal for this plant for five years. The two years past you have only spent about \$90,000.00.

"Q. It is \$106,000.00 spent in the last two years?"

In the last two years you have spent a little less than your average for the past five or six years. Whenever you take out this switch-board here and put in the automatic, you will have a very much larger expenditure than in any one year, and of course, that  
2370 would necessarily come at one time, substantially in one year, and equally you must have a fund to take care of it. Not a fund to equal the cost of the new equipment, but for the old equipment which you remove, less the salvage cost. So that, the larger the plant gets, the larger the amount that is necessary per annum to take care of the realized depreciation. In addition to the realized depreciation prudence would suggest that we set aside something to



take care of obsolescence and inadequacy and public requirements which we know will come sooner or later. So that the percentage that is set aside ought to be comparable to the investment which you have in the different items and related to the average life of the different items. The methods which I have used to compute the annual return you should have for depreciation is, to my mind, the only proper and rational one. It may be that the actual figure which I have obtained is not the best and most exact figure, if the life of the cable, overhead cable, can be shown to be shorter than that which I have adopted. The annual amount to be set aside depends on two things, and two things only,—the average life of the property the depreciation fund is meant to cover, and its cost; that cost must be returned to you within the period of its actual life, and the only proper way is to separate the whole equipment into individual items, that is, within a reasonable degree, and apply the average life and the cost to each one and get depreciation per annum for those items, and the sum of the total depreciation on the whole property. Mr.

2371 Hoag attempted to do that and found 6.33% as the proper rate of reserve for depreciation, but that was not applicable to the depreciables. Not to the depreciable part of the property, but it was calculated on the depreciable part of the property and then allocated to the entire plant for convenience, and that means the entire plant has an average life of 15 years. That is the buildings, land, and cables which have as much as 40% junk value, and all the other items together, make an average life of about fifteen years. That seems to be rather low to me, it is, to my mind, impossibly low. This realized depreciation does not tend to prove that it is not too low. That realized depreciation, in order to be a real assistance and help in reaching a conclusion, would have to be divided into its component parts. We don't know from that whether a switchboard that has been in use fifteen years has been removed one year and raised the cost of that year, but proves the switchboard's life was fifteen years instead of twelve, or we don't know but what cables were allotted a twenty year life and have lived only twelve years, and be removed and brought that amount up. It has to be segregated into its component parts, and the date at which the equipment removed that year was installed. It costs money when you take it out, regardless of when it is put in. But in order to draw a conclusion for the future—there is no question about its relation to the past. I understand that the Bell Company, for the entire United States, is setting aside nearly 6% as reserve for replacements, I understand they are setting aside that sum of money. I also

2372 understand that the Government allowed 5.72% as reserve for replacements. Of course, the percentage would be different in accordance with the different kind of plant. It would be less on the distribution lines. The rate of depreciation on the lines which are not aerial would be less than would be the lines that are aerial lines, but the investment would be heavier. The rates would be less, but you would have a heavier investment, and therefore the smaller rate, applied to the heavier investment, will still make an annual depreciation rate which would not be so much less than the other one.

I judge it would be less, but of that I am not sure. The increase in cost of sub-surface conduits is very much greater, compared with the aerial. You might have a lower depreciation, but when you multiply the higher depreciation rate by the lower amount and the lower depreciation rate by the higher amount, you might get an amount not so very far apart.

I cannot say that the Keystone Telephone Company is in a very prosperous financial condition,—I see some red ink there. In 1918, they apparently lost \$34,362.00 in spite of their low operating expense, and they made \$132,783.00 less than they did the previous year, and that is without paying a dollar of dividends for this past year. They might have paid some dividends the preceding year, having made more money.

On page 304, it shows that they have to pay taxes assignable to operations on account of the Federal Income Tax \$14,404.00. Taxes for the State of Pennsylvania \$10,219.00. Both of those taxes were included in this report to the InterState Commerce Commission.

I do not recall what I have ever testified in any valuation case or rate case before any State Commission in the United States. I am very sure at the present time that I never did.

I would estimate, as an engineer, that the proper amount for reserve for replacements would be somewhere between \$136,000.00 and \$148,000.00, and I would regard that as absolutely ample, to return your investment to you. Now, if you set up a different value, if you double the value of this property by carrying it in as reproduction cost and try to get back as a payment the reproduction cost instead of what was actually paid out, then that would not cover it. I would say that the figure would be \$136,000.00, with that probably increased by three or four thousand dollars to cover the possibility of a somewhat shorter life of aerial conductors than I assume. I would say \$140,000.00 would cover it amply. If the realized depreciation for the past ten years averaged \$90,000.00 a year, and don't increase any for the next ten years, that would not leave \$50,000.00 a year to take care of inadequacy and public requirements. In this depreciation, the life assumed is not based on wearing out, but inadequacy, public requirements and obsolescence all are factors which determine the average life,—I will change my answer.

Yes, it is true that the \$50,000.00 is what you have to set up for possible obsolescence. In other words, the plant that you are tearing out this year is plant that is somewhere between, six, twelve, fifteen, may be twenty, possibly twenty-five years old. If you are setting aside reserve for replacements today, you are setting aside a reserve for replacements to take care of, not for the plant ten years ago, but the plant of today. If the plant is twice as great today as ten years ago, it would depend on what you were setting aside ten years ago and how rational it was, as to whether you ought to be setting aside twice as much today as you did ten years ago. The amount to be set aside is proportional, roughly, to plant. It is directly proportional if the plant is segregated into its separate items

having different lengths of life. It is proportional, absolutely, to the amount invested in those separate items.

Mr. Howard: You say that \$90,000.00 is the realized depreciation, and you ask if it only leaves \$50,000.00 for obsolescence and public requirements, and things of that kind. Isn't that a part of the obsolescence—isn't it a part of the obsolescence, and all that—isn't that taken care of up to that time to a great extent,—taken care of by realized depreciation?

Mr. D. A. Frank: Yes, sir, but takes care of property from eight to ten or fifteen years old.

Mr. Howard: Don't all of those things enter into the life of the property, and when you replace property, haven't you replaced not only the wear and tear, but you have replaced obsolescence 2375 and public requirement, and those things?

Mr. Lyndon: The whole combination of causes requires the replacement. If the realized depreciation don't grow except in proportion to the plant and you set aside only \$140,000.00 a year as you estimate, and the realized depreciation amounts to only \$90,000.00, leaving \$50,000.00, and you should happen to get in one year \$500,000.00 realized depreciation on account of switch boards, which is entirely possible if you change to the automatic, it would take ten years of depreciation to pay for that one item alone. That is the only reasonable basis to run a telephone plant on. In the first place, if you have to remove \$500,000.00 worth of equipment of one kind in one year, it doesn't follow that that same year you would do your usual \$90,000.00 worth of work anywhere else. Another thing is, assume that you had four or five years of your \$50,000.00 saved up and that you needed \$250,000.00 more to meet this extraordinary condition, the I. C. C. suggests that in case of extraordinary charges like that, that they be distributed over several years. That would be an extraordinary charge. Whenever you have a normal and usual charge of \$90,000.00 to \$100,000.00, and then under the same heading you suddenly get a cost of \$500,000.00, it would not be logical to set aside \$250,000.00 a year to take care of one possible sporadic item. In 1912 you had \$183,903.00 in realized depreciation in one year, which was 52% of the plant 10 years old, or 35% of the plant 8 years old, or 25% of the plant 6 years 2376 old, or 19% of the plant 4 years old. You had that in 1912, but that, in itself, was only 100% more than the average. I do not think if you should set aside the reserve that I recommend that you would go into the hole further and further every year. As far as I can see, you would be accumulating a fund and that fund would ultimately be quite sufficient to take care of extraordinary conditions.

As to what a reasonable per cent for reserve for replacements to be set aside on a plant twenty or thirty years old,—I do not think it is rational to apply percentage. I do not think it is the proper thing. Every plant will differ. For instance, as I have pointed out, a large percentage of the Keystone equipment is underground, larger than here and it would decrease the percentage. Take a plant like the

entire Bell System, I should say that a fair average of reserve for replacements, taking the whole plant, real estate, buildings, and everything, and taking the original book cost, which is the amount of money that must be replaced. I should say that somewhere between three and three and three-quarter per cent of the whole thing would be a satisfactory figure in spite of the Bell experience that about six per cent is the right amount, because Bell experience has been the experience of a very rapidly changing art that has settled down, at least as far as the conducting systems are concerned. I know that the telephone industry is changing faster now than it ever has before due to the automatic. It may be that it is changing

2377 faster now due to hundreds of other things but I don't know that, I have no knowledge of it as a general telephone user.

The manifestation of it, either in character of apparatus turned over to the user or character of service which he gets, is still lacking. We have no indication from those standpoints, and any advance in the art should be felt by the user. The same thing is true of riding on a railroad train. Twenty-five years ago the railroad tracks would take you from here to Galveston, and today it will do the same, but today you can ride in a Pullman car, with greater comfort, and in those days you might have ridden in an ordinary chair car, or day coach. There have been developments even in railroad building, although they are one hundred years old, and that development is being felt by the user; but, as I say, the development in the telephone art has not manifested itself to the user. The instruments that you pick up are, of course, part of the equipment and system. They manifest themselves to the user, and as I say, I see no difference between now and fifteen years ago, except that we got better service then than now.

As I have stated, the entire instrument, including what the A. T. & T. Company furnishes, is worth \$10.00 to \$14.00, that is, roughly. I have allocated \$2.70 for the instrument of the American Company and the other eight or ten dollars would be parts that you would have to buy. The Southwestern or the American Tel. & Tel. Company would have to buy those parts and they are part of the subscriber's set. They are charged up in that heading. When I say from \$10.00 to \$14.00 I am including the transmitter, receiver, and induction coil, the complete thing runs from \$10.00 to \$14.00, 2378 depending upon whether a wall set or a desk set.

"Q. Take an ordinary desk set like we are all used to,—how would you get \$10.00 worth there by counting the transmitter, receiver and induction coil at \$2.70?"

"A. The box, the ringer and the coil and the stand and the hook switch and all the stamped portions that go to make up the set."

I do not understand that the stand itself is furnished by the American Telegraph & Telephone Company. I don't know what the stand is worth. The little iron box, that is nothing but a little box four or six inches square and they are turned out in enormous quantities, there is no question about that. The bell is two little hollow pieces of iron, with a little nickle over it, it does not cost very much. It

might be that the most expensive part of the entire desk stand set is the transmitter, receiver and induction coil, but my idea is that the rest of the instrument is more than one-half of the cost of the entire apparatus, considerably more than one-half; the part which is furnished by the Telephone Company is considerably more than one-half of the total. The desk stand is the cheaper of the two, usually runs about 15% or 20% less than a wall set. I have been speaking of the desk stand. It is my understanding that at the present time that runs about \$10.80. The wall set runs from \$12.50 to \$13.00. I would figure that \$11.00 would be approximately an average in a plant the size of Houston, it would look that way from a casual glance. To determine it would be another thing.

2379 Mr. Hoag in his appraisal on page 167 put in the figure of \$162,429.00 for the parts not owned by the American Telephone Company, which, on the basis of 26,000 stations, made \$6.25 per station, and Mr. Pennell put in \$4.25 for transmitters, receivers and induction coils, which makes \$10.75 per station, but it was based on a higher value for the portion owned by the American Telephone Company and a lower one for the parts furnished by the Telephone Company, the Southwestern Company. Now, I have no personal knowledge of what those things cost, except the statement of the American Telephone & Telegraph Company. As I have told you, I have investigated, and as far as my investigation went, my investigation indicated between \$3.00 and \$3.25 as the present charge by other companies for those parts. It is not my information that the market price of the Kellogg instrument today is around \$5.00. That is not the information I got from Mr. Kelsey, who I understand manufactures them, I know he manufactures some telephone apparatus, and if he does not I was under a misapprehension, but he ought to be somewhat informed as to their cost, and I am using his statement when I say between \$3.00 and \$3.25. His testimony on the cost of those parts is very much better than mine because he is in intimate contact with them.

Returning to that statement I say 3% or 3½%, somewhere between that would be an approximation of this plant, as near as I can get it, at the present time. On that basis, in 1909 you had a book cost of the property of \$1,031,000.00. According to my idea of 3% you ought to have set aside \$30,000.00 to \$35,000.00 a year. In 1910 the book figure was \$1,245,322.00. On that basis you  
2380 ought to have set aside about \$36,000.00.

"Q. We actually spent \$18,000.00, so we would have had that year about \$18,000.00 in the reserve. In the next year, 1911, we had \$1,601,000.00. On the basis of 3% that would make about \$48,000.00 we ought to have set aside?"

"A. Yes, sir,—say \$50,000.00."

"Q. Say \$50,000.00,—and adding that to the \$18,000.00 for the year before, we would have \$58,000.00 in the reserve?"

"A. \$68,000.00 in the reserve."

"Q. And we actually had \$52,000.00 in realized depreciation, so that would leave \$14,000.00 in the reserve?"

"A. \$16,000.00."

"Q. That is correct. In 1912 we had \$2,072,000.00; now, at 3% on that,—you say 3½%,—that would make \$70,000.00?"

"A. That would give you \$86,000.00."

"Q. But we had \$183,900.00, practically \$184,000.00 realized depreciation that year?"

"A. Yes, sir."

"Q. That would put us \$98,000.00 in the hole?"

"A. Yes, sir."

"Q. We would have to go to the banks and borrow that to take care of the plant?"

"A. Yes, sir, and the interest would be part of the annual charge."

"Q. Now, then, the next year our book figure was \$2,350,000.00, and 3½% on that would be——

2381 "A. \$81,000.00."

"Q. \$81,000.00. We owed \$98,000.00 and we spent in that year for realized depreciation \$121,397.00."

"A. That is \$219,000.00 behind on \$81,000.00 as a credit."

"Q. What do you get?"

"A. \$219,000.00 you are behind and \$81,000.00 as a credit. That is \$138,000.00 you are behind."

"Q. \$138,000.00?"

"A. Yes, sir."

"Q. In 1914 we had \$2,501,000.00, which would make \$87,500.00, and we had a realized depreciation of \$57,748.00, which is practically \$58,000.00?"

"A. Yes, sir."

"Q. That would be \$196,000.00?"

"A. That would give you \$29,000.00 to the good to apply to the \$138,000.00 which gives you \$109,000.00 you are behind."

"Q. In 1915 we had \$3,088,000.00,—call it \$3,100,000.00."

"A. Then that is \$113,000.00."

"Q. That would be \$105,000.00?"

"A. Yes, sir, you are right."

"Q. In that year we had a realized depreciation amounting to \$115,000.00. That would put you \$10,000.00 further in the hole, or \$119,000.00?"

"A. Yes, sir."

"Q. The next year we had \$3,571,000.00."

"A. That gives \$126,000.00."

2382 "Q. \$126,000.00,—but we had a realized depreciation of \$157,372.00. That puts you \$31,000.00 further in the hole and makes \$146,000.00 in the hole."

"A. Yes, sir."

"Q. Now, the next year there was a book cost of \$3,590,000.00,—practically \$3,600,000.00."

"A. That is \$126,000.00."

"Q. And we had a realized depreciation of \$152,000.00, which puts you \$26,000.00 further in the hole, making you now \$172,000.00 in the hole."

"A. Haven't we repeated on that \$152,000.00?"

"Q. No, sir. In 1916 we had \$157,000.00 and in 1917 we had \$152,000.00."



"A. That is \$26,000.00 further, or a total of \$172,000.00."

"Q. In 1918 in that year we had \$3,591,000.00, which would be \$126,000.00, and a realized depreciation of \$74,662.00,—practically \$75,000.00."

"A. That leaves \$51,000.00 to the good."

"Q. Which makes \$121,000.00?"

"A. Yes, sir."

"Q. Leaving you in the hole \$121,000.00?"

"A. Yes, sir."

"Q. In 1919 you had \$3,705,000.00?"

"A. Call it \$3,700,000.00. That is \$129,000.00."

"Q. And you had a realized depreciation of \$32,000.00?"

"A. That is \$97,000.00 credit."

"Q. Which leaves \$24,000.00 in the hole?"

2383 "A. Yes, sir."

"Q. That leaves you \$24,000.00 in the hole, that is, you lack \$24,000.00 of having enough to take care out of that fund for reserve for depreciation,—that is, for your replacements?"

"A. Yes, sir. The 3½% should be obviously somewhat more than that, because we get only \$127,000.00 for 1919 on 3½%, and we found \$136,000.00 for the actual depreciation."

"Q. That leaves you \$24,000.00 in the hole, short of making these replacements."

"A. We take \$136,000.00 and we admit probably that ought to go up about \$4,000.00 after this detection of the short life of aerial cables, so that \$140,000.00 would be about proper for 1919, and the book cost is \$3,600,000.00 and something,—call it \$3,700,000.00. It would be, really, 4%."

"Q. In this computation we are left \$24,000.00 in the hole,—lacking \$24,000.00 of having a reserve for replacements at all?"

"A. Yes, sir, on the basis of 3½%."

"Q. What has become of the \$918,000.00 of depreciation that you took off of these figures. We would lose that much: \$24,000.00; and what become of the \$918,000.00 you subtracted from the books?"

"A. That is accrued, but not yet realized depreciation."

"Q. But haven't we got a right to collect from the public, as you put it, an amount sufficient to take care of the \$918,000.00?"

"A. You have. The idea is this: Whatever is paid in, no matter how used,—whatever is paid in as depreciation is amortization of that amount of property of the Company. The Company is not even required or obliged to replace its property. It can take  
2384 that money and go off with it if it wants to, because that is the Company's money given to it in consideration of the public's having used up that much of the Company's apparatus."

"Q. You think it would take 4% for realized depreciation, and then in addition to that, in order to take care of this \$918,000.00, we would have to have 4% or 5% more?"

"A. Hardly."

"Q. You subtracted it from our book value, our book cost, you have subtracted it entirely?"

"A. Subtracted the \$918,000.00, but we haven't gone over the whole period here of the Telephone Company."

"Q. But if the theory will work at all, it ought to work over a ten year period?"

"A. No, sir; the only period over which it could work would be the complete period in which the longest lived property had passed through its life."

"Q. Do you see the point I make, that on your theory, in setting aside  $3\frac{1}{2}\%$  or  $4\%$ , at the end of ten years we would be without a reserve for replacements, and there is \$918,000.00 taken away from our books, and we had known that ten years ago, we ought to have been setting aside enough so we would have that amount of money in our treasury to take care of the amount subtracted by the valuator?"

"A. You should have the property or the money,—there is no doubt about that, and the money might be employed in extensions and worked into capital account. That is perfectly proper."

2385 "Q. We would have to collect it in something we would call reserve for replacements, wouldn't we?—we would have to call it something?"

"A. You would have to collect it in the depreciation fund."

"Q. As a matter of fact, the \$136,000.00 you are talking about ought to be collected over and above the actual realized depreciation, ought it?—over and above the realized depreciation? Otherwise, if we should keep our plant up for forty years, the time would come when we wouldn't have any plant at all, on your theory?"

"A. That goes back to fundamentals. You get a piece of property and it goes through half its life; the depreciation on it is  $50\%$  and it has a much less value, but when you replace that property, take a depreciation fund and replace that property, it stands new and the accrued depreciation is removed from it. That is, there is no accrued depreciation on anything that has reached the end of its life and been replaced, because the thing that has replaced it is new. It stands without any age. The only thing that must be kept in mind is that it must be replaced only with money from the depreciation fund. Now, obviously, the public must furnish a sufficient amount of money to enable you to make continuous replacements."

It has got to be included in the rates. It is usually set up as a depreciation fund. That depreciation fund should be this sum of money: the amount that represents the deterioration in value  
2386 of the property every year. What has happened here is that when you built up your plant to the present book cost, \$3,705,000.00, and have taken out  $3\frac{1}{2}\%$  to meet the realized depreciation, and at the end of the time you are \$900,000.00 worse off than when you started, that condition would not be fair, absolutely. As you have put it, it does not look fair, but let's get the facts. The facts are that the depreciation fund must be a sufficient amount, not only to make replacements, not simply to make replacements, but to cover each year the change in value that the plant suffers or undergoes, due to the fact that it has started to the end of its life.

Just like a human,—as soon as he is born he starts to the end of his life, no matter how long he may live.

“Q. In order to accumulate this \$900,000.00 and have that over and above this reserve for replacements we have been talking about,—back here in 1909, if it be presumed the plant started in 1909, we would have had to set aside something like \$130,000.00,—not quite that much, probably an average of about \$90,000.00 a year for the ten years over and above these replacements, in order to have such a fund as you have described, would we not?”

“A. No, sir. When you used the money to replace individual parts, those individual parts had then lost their accrued depreciation, disappeared.”

This accrued depreciation is computed in this way: We had not the actual replacements, without which an accurate set up cannot be made, but we did assume replacements that were made at the end of the theoretical life of the property. We took that assumption, that property that we said had 8% depreciation, meaning a twelve and a half year life. At the ending of that period,—twelve and a half years, we assumed, not having the data, we assumed it was replaced, and you will see that poles, switch board apparatus and P. B. X's., and subscribers' stations, all of which are taken at twelve and a half year life, that the apparatus if placed in 1907, is given a zero-depreciation and zero life today, on the assumption that in 1919 the twelve and a half years having elapsed, it was replaced and is new today. That is regardless of whether you did replace it or not. You see, in that case it was the only assumption we could make, and I believe that it was in favor of the Company. Now, I can tell you better by taking the actual replacements that you have here and making computations with those and seeing when these replacements were made, provided the replacements are divided into—segregated into the individual units. The data which we had here covered simply the total replacement. We don't know what they apply on or what they relate to. That is the theory of replacement. The theory of fixing a certain life for a plant and computing depreciation and setting it up as actual figures is, as far as I know, universal. I do not know any Commission that has not adopted it. I don't know about the Courts. I will cite you to the case of the Madison Gas & Electric Company against the Madison Printing Company. It was between 1906 and 1909 I know, because I used that case and all its principles in determining whether the consolidation between the Harrisburg Electric Light Company and the Pax-  
 2388 tong Company would be permitted. I did not get the theory there. It is the only possible theory that I know of that has any fundamental basis. It is the only rational one that I can see. I don't know where I got the theory if I did not get it from that case. I have several elements of knowledge that are very definite in my mind, but I couldn't tell you where I got them or how they became fixed.

"Q. You think that no Court or Commission finds value by taking an inventory and appraisal of unit cost and material prices and attempting to find it in the way we have in this case, but all of them, according to your opinion, universally, have set ups of the kind you have here, with theoretical life and assumption as to the age of the various parts of the plant,—is that your opinion?"

"A. Yes, sir. You mean by your method, that of looking it over and determining its condition?"

"Q. Yes, sir. The method we have used, the method of inspection."

"A. It is so utterly impossible that that should have any bearing on anything that might be even remotely conceived of that I can't grasp the idea of any intelligent person, Court, citizen, or anything else accepting it as bearing on the subject. It is beyond me."

I do not know of any decision other than the one I have referred to that discusses the theory that I have mentioned. I have brought out here very clearly and definitely that obsolescence and inadequacy are the fundamental factors which require removals and 2389 which fix the life of a plant; and any gentleman that can inspect anything and tell how soon it has got to be removed because of its then condition has a mentality that I am unable to understand.

\* \* \* \* \*

Redirect examination.

Questions by Mr. Howard:

"Q. Mr. Lyndon, Mr. Frank this morning asked you how you would—he assumed a certain  $3\frac{1}{2}\%$  depreciation annuity and had you make the computation based upon that and based also upon the experienced depreciation and I believed you arrived at the result that one would cancel the other, did you not?"

"A. Following the computation, it means that a depreciation actually set up would have been \$28,000.00, less than the depreciation actually experienced over the period which we took the figures for. That was for ten years beginning in 1910."

In the first place, the  $3\frac{1}{2}\%$  was not the percentage that I found afterwards actually did apply. It was a guess made at the time for rather a rough approximation. I find that for \$3,660,000.00 and some odd thousand, the actual depreciation which I computed was \$143,500.00 as applying to the equipment and it was the replacement of the equipment only that we had considered. Now, that is approximately 4%. The \$136,000.00, substituted for the 2390 \$143,500.00, was a total \$143,500.00 to apply to the equipment less the increase in value of the land of \$7,000.00 a year. If one increases and the other diminishes, the net is the total sum to be furnished by the public. As Mr. Frank expresses it, if half the plant was in land that increases just as rapidly as the equip-

ment decreases, then there would be no change in total value, no depreciation allowed and no depreciation fund. I don't think that question has ever been submitted to the Court and I know no utility has that ratio of land and equipment. Another thing, Judge, another matter, collateral matter, was that the adjustment of the Houston Home purchase brought in a considerable portion of that depreciation. The Company bought,—that is, the present operating company bought the old Houston Home Company, which had practically depreciated, a depreciation that had accrued on that property was a portion of the \$918,000.00, in fact a considerable proportion. I understood that the Houston Home Company's property was put on there at the depreciated value, the final value as taken was the depreciated value. With reference to how these depreciations would add anything on account of the Houston Home Company's property, I will give you an instance: The Houston Home Company's pole line is set down in the calculation for pole lines as being added to your property in 1915, at its original cost value of \$66,000.00. That is in my tabulation. You set it up at \$59,000.00. I set it up at \$66,000.00. I then applied the age of the pole line and the depreciation rate and got the depreciation on that pole line that had accrued for that period. We are talking about both realized and accrued depreciation. That would add something to the accrued depreciation, to my set up. But on the figure of the realized depreciation, there would not be anything added, if your figures were used, because of the fact that the property was put on there at the depreciated value. The realized depreciation might have been taken out when it was put on your books, but in order to be consistent in the method which I have used, I put down the original cost value of each item of the property, I never took the depreciated value. So that, in my set up I am not talking about the realized depreciation, but the accrued depreciation which had accrued but not yet realized.

2391 “Q. You know, of course, that The Houston Home Company's property is taken out at the same figure that it is put on our books, that is, we don't put a pole on there, that we value at \$9.00, we don't take it out and charge \$17.00 for it, but we charge the \$9.00 when the pole comes out.”

“A. I don't know what your method is, but it seems to me, what you should charge, certainly the appropriate and sound method would be to charge what that pole cost, not what you took it in at.”

“Q. That is what is done under the Interstate Commerce rules?”

“A. If the pole cost the Houston Home Company, \$10.00 and you bought it for \$4.00, then you should take it out at \$4.00.”

“Q. But it comes out at \$10.00.”

“A. I don't regard that as sound.”

“Q. That is the I. C. C., that is what they tell us.”

(By Mr. Howard:)

2392 “A. Passing from that. If replacements had been deferred for a very considerable period over the time——

"A. (Interrupting.) A specific period, of course, can be selected in which a great many replacements at high costs had been crowded into a comparatively few years, which would be indicative of an average that did not actually obtain over a long period. The past ten years show an average, I believe, of about \$90,000.00. This is subject to computation and correction, but I think about \$90,000.00 a year. It is possible that if they were extended back to 1901, that the average realized depreciation would be considerably reduced and the average per annum related to the average investment per annum over the total period might be reduced. I can't say that it would without seeing the figures."

"Q. Well, now, as I understand you, Mr. Lyndon, you suggested the depreciation of this property in the sum of \$918,000.00 because you have estimated that the earnings of the utility have been set aside for the purpose of replacements, which exceeds the actually realized replacements by about that amount?"

"A. Yes."

"Q. Now, if it is a fact that the company has not earned in addition to its fair return an amount in excess of the actually realized replacement, would you set such excess aside or is it reasonable to conceive of such excess, that the plant ought not to be depreciated?"

"A. Substantially that, it is a matter of preference, it would depreciate the plant and set-up the loss under the head of "Cost  
2393 of Establishing Business." The net returns or the net capital account of the company is not changed."

"Q. That would be your method, it would come out practically at the same place?"

"A. It makes identically the same capital account."

"Q. In other words, upon treating the matter of investment, for a certain amount of money—if a certain amount of money had been invested and the plant had worn out in parts and they had collected no more than enough money to keep the plant replaced in a reasonable way, you would not then suggest a further depreciation?"

"A. Certainly not. The idea of depreciation is that a sufficient sum shall be allowed the company to take care of its reduction in value. Now, if that reduction in value comes, which it inevitably does and then part of it is neutralized by replacement, then the difference between the total amount which has accrued and the reduction in that total amount by replacement is a difference which should exist in some fashion as a profit either over and above the profit and return or a repayment to the investor for the apparatus actually consumed in performing the services."

"Q. Let's see if we can actually assume; take a plant worth \$2,000,000.00 and you can set up a depreciation say arbitrarily of six per cent for the purpose of keeping up the plant and amortizing the investment."

"A. Yes."

"Q. If you run along operating until you get as much say  
2394 as \$500,000.00 in that fund. Now, if the whole amount is kept invested in either extensions or replacements, will



there be any room for depreciation then? There will be then no deterioration will there?"

"A. No, sir, provided the extensions made with that fund are not written into capital account."

"Q. But if they are written into capital account, for instance you take this \$2,000,000.00 and you get up a fund of \$500,000.00 and then no depreciation realized and you take that \$500,000.00 and add it to it and make extensions, you would then have a larger plant or a \$2,500,000.00 plant, what would be the relative amount of the investment?"

"A. The investment would still be \$2,000,000.00 if the \$500,000.00 is written into the capital account, the books would show an investment of \$2,500,000.00 and a depreciation of \$500,000.00, making the net value of the plant \$2,000,000.00, which has been its net cost and has been its net investment. It shows that the fund for depreciation has been diverted for the purpose of profit."

"Q. And if you had to add that \$500,000.00 to the capital account and make it \$2,500,000.00, then you will have to depreciate it the \$500,000.00, because that was not the original investment, to get that to the original value of the property you have to depreciate it the amount that has been charged to the plant out of the replacement or depreciation fund?"

"A. Yes."

2395 "Q. Well what relation has the depreciation fund to the accrued depreciation? By that I mean the amount by which the plant should be depreciated."

"A. The total amount set aside for depreciation, less the actual replacement is the reduction in the value of the plant. On that basis it would make but little difference whether set—whether the plant set aside two or three items as large as the real depreciation is, if it were not for the fact that very great amounts set aside form higher rates which in the course of years would be adjusted by a large portion of the plant account being amortized, therefore reduced and followed by a low rate so that the community within thirty years would get an average rate which would be correct, but the population during say eight or ten years would retain more—would be paying more than its share and the succeeding generation less than its share. It is a matter, if it be continuously considered as a forty year period, it makes scarcely any difference whether the depreciation fund is high or low, but the difficulty is the distribution of the burden in one case over one generation and the lightening of it on another."

"Q. Well, suppose, Mr. Lyndon, this set-up here of four per cent you use on the total value of the property as distinguished from the depreciable would not be sufficient to more than keep the plant replaced, more than meet the realized depreciation, would there be any depreciation then of the value of the property as you have ascertained it here?"

"A. Yes, there would, a four per cent depreciation carried over ten years would amount to considerably more than the replacements—

2396 "Q. No, I am assuming, I don't care whether it is 4%, or 3% or whatever the amount is, if the amount that you have set up here and allowed will not more than take care of the replacements or realized depreciation, why should the property be depreciated?"

"A. It would not be."

"Q. It would not be?"

"A. It would not be, that is, as a matter of financial facts. As a matter of proper bookkeeping the property ought to be depreciated by an amount, which is based on the life of the separate individual portion and the failure to obtain that depreciation ought to be carried into the cost of establishing business, but the net amount that the company would still have would be same, I mean to draw interest on, would be the same as if there were no depreciation at any time."

"Q. Well, for the purposes now of getting a final conclusion upon this matter, I want to know whether it is your opinion that this \$140,000.00, is set aside annually for depreciation would be sufficient to take care of the replacements and to amortize this investment in such way that the plant should be depreciated?"

"A. It will do it in such way that the plant will have to be depreciated to some amount. The original figure of \$918,000.00 is susceptible of being made a definite and accurate figure by a knowledge of all the amounts of money that have been expended for replacements in 1901 to the present time and it is then a matter of simple calculation to determine just how much the plant should be depreciated as a matter of fact.

2397

(By Mr. D. A. Frank:)

"Q. As a matter of finance instead of fact, isn't it?"

"A. No, as a matter of fact. You see if you get \$10.00 a year or \$10,000.00 a year as depreciation, which amortizes that amount of your investment. Now, if you permit the piece of property that it protects to wear out and you don't replace it, you are in the condition of the man who has had his bond repaid, and you are done."

(By Mr. Howard:)

"Q. Well, Mr. Lyndon, just get your final value on this thing, it suggests itself to me now that possibly you are not in a position to give it, because whether the property should be depreciated in the amount you have formally stated \$918,000.00, can you get that data now?"

"A. The data for the past ten years are available; the data for the five preceding years, I don't know whether—they are not available here."

Mr. D. A. Frank: You can't get it at all. There isn't any such figures. The books are not kept back of 1918, so that you can't do it.

"A. (Continuing:) I am of the opinion without knowledge that the replacements were made and charged to maintenance, out of

operating expenses in 1899; I found that true in one utility and it is quite possible that it may be too."

2398 Mr. D. A. Frank: I object to this statement of such a thing being made in another utility and charged—and charging us with it here.

"A. It is not a charge. The bookkeeping methods in 1910 were quite different."

Mr. D. A. Frank: Well, it comes pretty close to a charge.

(By Mr. Howard:)

"Q. Are you satisfied with this set-up you have made here, whereby you say this property ought to be depreciated from something around four million to something a little over three?"

"A. No, the indications are from the data I have had that the amounts of depreciation based on four per cent with due regard to the appreciation in land and with due regard to the depreciation in that amount proceeding from the old property of the Houston Home Telephone Company, purchased by the Southwestern Telephone Company would not exceed half that amount. That is my judgment. I don't know without computation."

"Q. Can you take this data from the report of Mr. Frank as furnished the City, and everyone of these replacements and make that a definite calculation or are we under the necessity of leaving this matter of the amount this property should be depreciated somewhat undetermined?"

"A. In a measure it will have to be undetermined, owing to the fact that nine years from 1901 to 1910, there are no data concerning replacement. If those were available, and perfectly definite,—rather a perfectly definite accrued depreciation amount could be computed on the basis of setting aside of 4%, or on the basis of setting  
2399 aside any per cent that might be suggested."

(By Mr. D. A. Frank:)

"Q. What would happen if the books had been burned up and we hadn't had any of those figures at all?"

"A. Well, we would just have to reach some general conclusion."

Mr. Howard: That is what he says he has done. He has tried to do the best he could, not having the books, but he says he makes that, but it is not accurate.

Mr. D. A. Frank: That shows the fallacy of his whole set-up.

Mr. Howard: But it don't show the fallacy; of course, there is a fallacy in all these things.

"A. There is no fallacy in the method of computing the interest on the note, but if you don't know the face value of a note, you can't do it."

Mr. D. A. Frank: If you don't know the face value and the time, you would be still worse off.

"Q. Those values, with a reasonable degree of certainty, could an approximation be produced?"

"A. Yes, an approximation could be made."

"Q. But the figures which you first have, I am speaking now, of those, rather those that you have furnished us—

"A. It is the past history, that lacking the past ten years—that is lacking the past ten years, can be taken as some sort of  
2400 criterion and from that, the previous history projected. That would be only an assumption because we have no means of knowing that the previous history—the history previous to 1910, was along the same lines as the history from 1910 to the present time, but in the absence of any data at all, something would have to be assumed. It might be that the assumption would come very close to the actual facts, or it might be it would depart from them, but there is no option left."

Yesterday, after stating the amount of property that I found to be used in this plant serving the public here, upon two methods—one by accepting the Company's inventory of 1914, plus additions since that time, and the other by an apportionment of the historical or book cost, I found certain figures, approximating \$4,000,000.00, and I stated that that property should be depreciated on account of deterioration, but that the exact amount I could not tell. The depreciation would be a greater amount than \$918,000.00, computed with a subtraction from this greater amount of the total replacements. It is obvious, of course, that when a replacement is made the depreciation accrued disappears. If the amount reached in this manner, assuming that all the data were available and could be exactly computed, it is covered by the fund which the Company has on hand and which has been received from the public; then that becomes the true deduction from the value of the property. If  
the Company has no larger fund than this amount, which  
2401 it has received from the public, that then becomes the measure of the depreciation, because it would mean that the public had amortized that much of the plant,—had paid back the Company for its investment of that much of the plant. If the Company had not received a sufficient amount to cover the true depreciation, then the only depreciation which could be charged against the Company's assets would be the amount of the fund which it might have accumulated for the purpose of depreciation, and not the total actual depreciation. That assumes, of course, that all money in excess of a fair return, or 8%, has been carried into the depreciation fund. If there is no fund, and the Company had been making 10% and declared it in dividends, then it would be correct to set up the other 2%, regardless of whether it had been paid out in dividends or not, for the period of time which it had endured and converted into a depreciation fund, or the equivalent, and to set up that as depreciation deductible from the value of the property. Briefly, and theoretically, depreciation based on the life of the property should have an equivalent fund accumulated. If the Company has been unable to accumulate a fund, it is proper to reduce the value of the property by the amount which the Company

has not collected as amortization. It would only be an approximation as to the amount in which this property should be depreciated; in view of the nine hundred odd thousand dollars replacements, I should say that, including the Houston Home depreciated value, that the actual depreciation would run somewhere between \$250,000.00 and \$400,000.00, but those are simply limits. It has to be a matter of judgment, because we are without the data 2402 for actual computation.

Mr. D. A. Frank: Why don't you just assume it?

Mr. Lyndon: That's just what I am doing, Mr. Frank.

Mr. Howard: Your Honor, I believe that's all the questions I have to ask of Mr. Lyndon at this time. He is preparing a statement showing an adjustment of the toll revenue, and later I will want to examine him on that.

Cross-examination.

Questions by Mr. D. A. Frank:

No this is not an assumption, there is no assumption about depreciation,—we all know that it happens. Actual depreciation happens,—theoretical depreciation happens,—all depreciation happens. I think there is no question about that, even with your own engineers.

"Q. But you found \$918,000.00 of accrued depreciation in this plant without looking at it?"

"A. That wouldn't have made any difference."

"Q. And without knowing that \$900,000.00 had been spent in replacements in the last ten years, you now say that there would still be \$250,000.00 to \$400,000.00 of depreciation in the plant?"

"A. You include the \$918,000.00 and assume replacements in excess of your \$900,000.00."

2403 "Q. But it is regardless of the facts?"

"A. It is not regardless of the facts. The computations which make up the \$918,000.00, representing the accrued depreciation, includes, replacements estimated, which exceed \$900,000.00."

"Q. And regardless of the fact that the Supreme Court of the United States says—

"A. (Interrupting.) Regardless of the Supreme Court of the United States, or any other men. The Supreme Court is made up of humans,—not experts.

"Q. You put yourself above the Supreme Court as an expert?"

"A. As an expert in my line of work. I think that there isn't a combination of the entire Supreme Court that can form as good judgment, and being under oath—

"Q. (Interrupting.) Although this is the second time you have ever testified in your life, and have never made an inventory in your life, and never read a single book on valuations from cover to cover?"

"A. Those are your statements, but don't happen to be true. I have told you that I read Whitten from cover to cover, including the preface."

"Q. And still you didn't recognize the articles quoted from Whitten?"

"A. I don't memorize books, and never have done that. If you mean by reading that you learn to 'parrot' it off page by page,—and besides, I am not bound by Whitten's views; he has just simply pointed out what they are, and some may be wrong and some I am sure are."

2404 In the District Court of the United States for the Southern District of Texas, Houston Division.

In Equity.

No. 108.

SOUTHWESTERN BELL TELEPHONE COMPANY, Plaintiff,

vs.

THE CITY OF HOUSTON et al., Defendants.

*Præcipe.*

To the clerk of said court:

The Clerk will please incorporate into the transcript of the record on appeal the following portions of the record which Plaintiff, Southwestern Bell Telephone Company, submits in addition to the rest of the record herein, for the consideration of the United States Supreme Court in connection with the appeal of Southwestern Bell Telephone Company:

(1) The following Exhibits and Abstract of Exhibits filed herewith:

Plaintiff's Exhibits numbered thirteen (13) to twenty-three (23), inclusive, F. M. Hoag, witness; pages 2254 to 2265, Statement of Evidence.

2405 Plaintiff's Exhibits numbered thirty-one (31) and thirty-two (32), H. P. Topping, witness; pages 2266 to 2268, Statement of Evidence.

Plaintiff's Exhibit numbered thirty-six (36), Geo. P. Player, witness; pages 2269 to 2270, Statement of Evidence.

Plaintiff's Exhibits numbered thirty-seven (37) to thirty-nine (39), inclusive, C. A. Gates, witness; pages 2270 to 2274, Statement of Evidence.

Plaintiff's Exhibit numbered sixty (60), James E. Allison, witness; pages 2275 to 2286, Statement of Evidence.

(2) Plaintiff's Exhibit numbered eighty (80), representing changes in electrical current, F. L. Rhodes, witness; page 2287, Statement of Evidence.



(3) Plaintiff, Southwestern Bell Telephone Company's Statement of Evidence in support of its Assignments of Error, numbered as pages 2253 to 3084, inclusive, and filed herewith.

D. A. FRANK,  
JOSEPH D. FRANK,  
WM. H. DULS,

*Solicitors for Plaintiff,  
Southwestern Bell Telephone Company.*

2406 Service hereof accepted on this the 1st day of February,  
A. D., 1921.

W. J. HOWARD,  
*Solicitor for Defendants.*

2407 In the District Court of the United States for the Southern  
District of Texas, Houston Division.

In Equity.

No. 108.

SOUTHWESTERN BELL TELEPHONE COMPANY, Plaintiff,

vs.

THE CITY OF HOUSTON et al., Defendants.

*Plaintiff, Southwestern Bell Telephone Company's Statement of Evidence in Support of Its Assignments of Error.*

2408 PLAINTIFF'S EXHIBIT NO. 13.

*Inventory.*

F. M. Hoag, Witness.

This Exhibit is mimeographed. It consists of 256 pages in which are listed the number of poles, cross-arms, insulators, amount of wire, cable, land, buildings and all of the physical property. It is sub-divided as follows:

	Page.
1. Land }	1-8
2. Buildings }	9-38
3. Distributing System.....	39-136
4. Central Office Equipment.....	137-160
5. Station Equipment.....	161-231
6. Furniture and Fixtures.....	232-253
7. Tools and Store Equipment.....	254-256
8. Stable and Garage Equipment.....	

## PLAINTIFF'S EXHIBIT No. 14.

*Map Showing How State Is Divided Into Divisions.*

F. M. Hoag, Witness.

This is a map of Texas on which is indicated the manner in which the State is sub-divided by The Southwestern Telegraph & Telephone Company in the operation of its business.

Map shows that the State is divided into divisions and the divisions sub-divided into Districts as follows:

2409 1. Northwest Texas Division.

2. Northeast Texas Division.

3. Southwest Texas Division.

4. Southeast Texas Division.

(1) Houston District.

(2) Beaumont District.

(3) Galveston District.

## PLAINTIFF'S EXHIBIT No. 15.

*Charts Showing Plant, Commercial and Traffic Organization for the Southeast Texas Division.*

F. M. Hoag, Witness.

This chart consists of three pages, showing in graphic form the heads of the three departments and their subordinate employees and indicating the nature of their employment.

Page one shows that the Division Plant Superintendent has an organization consisting of 317 employees including himself.

Page two shows that the Division Commercial Superintendent has 63 employees.

Page three shows that the Division Traffic Superintendent has 1,002 employees. This includes the telephone operators and operating force.

## PLAINTIFF'S EXHIBIT No. 16.

*Photographs.*

2410

F. M. Hoag, Witness.

This is a bound volume containing 113 photographs showing the various buildings, operating rooms, portions of the distributing system, switch-boards, cables, etc.

## PLAINTIFF'S EXHIBIT No. 17.

*Unit Costs and Material Prices.*

F. M. Hoag, Witness.

This is a bound mimeographed volume containing 176 pages showing the unit costs and material prices that were used by the witness in appraising the physical property of The Houston Exchange. It sets out in detail the cost of the material and the labor and incidental charges involved in placing the material in the plant.

## PLAINTIFF'S EXHIBIT No. 18.

*Appraisal.*

F. M. Hoag, Witness.

This is a bound mimeographed volume consisting of 288 pages showing the witness' estimate of the Reproduction Cost New less depreciation of The Houston Exchange property.

The first page is a summary as follows:

2411 The Southwestern Telegraph and Telephone Company.

Houston Exchange.

*Summary of Appraisal.*

## Reproduction Cost.

1. Land .....	215,187
2. Buildings .....	476,550
3. Distributing System.....	2,488,660
4. Central Office Equipment.....	1,156,480
5. Station Equipment.....	318,685
	<hr/>
	4,655,562
Contingencies and Omissions, 3%.....	139,667
	<hr/>
	4,795,229
Engineering Expense, 4%.....	191,809
	<hr/>
	4,987,038
General Expense, 2%.....	99,741
	<hr/>
	5,086,779
	<hr/>
6. Furniture and Fixtures.....	19,894
7. Tools and Store Equipment.....	11,638
8. Stable and Garage Equipment.....	10,219
	<hr/>
	5,128,530

Taxes During Construction.....	101,720
	<hr/>
	5,230,250
Interest During Construction.....	453,360
	<hr/>
Total Reproduction Cost of Physical Property .....	5,683,610

12

Cost of Establishing Business—Going Value.....	992,881
Working Capital, Including Supplies.....	238,818
	<hr/>

Total Reproduction Cost, Houston Exchange 6,915,309

Reproduction Cost Less Depreciation.

Total Reproduction Cost of Physical Property	5,683,610
Present or Per cent Condition of Physical Property .....	92.91%

Appraisal of Physical Property—Present Con-  
dition .....

5,280,642

Cost of Establishing Business—Going Value.....	992,881
Working Capital, Including Supplies.....	238,818
	<hr/>

Total Reproduction Cost Less Depreciation.. 6,512,341

## PLAINTIFF'S EXHIBIT No. 19.

*Comparison of Actual Cost of All Central Office Buildings Completed Since 1914 with Reproduction Cost of Houston Buildings as Used in Appraisal.*

F. M. Hoag, Witness.

## Buildings Completed in Texas Since 1914.

Office.	Location.	Date completed.	Contents, cubic ft.	Actual cost.	Actual cost per cu. ft.
Mission	San Antonio	May, 1918	108,857	\$44,923	\$ .413
Beaumont	Beaumont	June, 1919	189,000	99,168	.524
Cliff	Dallas	January, 1915	131,420	41,301	.314
Preston	Dallas	January, 1915	122,724	38,366	.313

## 2413 Reproduction Cost of Houston Buildings as Used in Appraisal.

Office.	Contents, cu. ft.	Total cost.	Cost per cu. foot.
Preston .....	623,590	\$354,590	\$ .568
Hadley .....	186,837	85,349	.457
Taylor .....	73,364	34,861	.475

## PLAINTIFF'S EXHIBIT NO. 20.

*Example- of Contingencies and Omissions in the Inventory and Appraisal of Telephone Exchange Property.*

F. M. Hoag, Witness.

This Exhibit comprising eight typewritten pages, gives a list of 101 examples of Contingencies and Omissions applicable to the inventorying and appraising of Telephone Exchange Property. Illustrations are contained in that portion of the record relating to the witness' testimony on this subject.

## PLAINTIFF'S EXHIBIT NO. 21.

*Cost of Establishing Business.*

F. M. Hoag, Witness.

This exhibit is an estimate of the cost of establishing the business, based on an appraisal of the property made Oct. 1, 1919. On page 2 of the Exhibit it is stated:

2414 "In addition to a bare physical plant, we have every item of value by which a live going plant exceeds in value a dead or dormant plant. \* \* \* Starting with a bare physical plant, it would involve a large additional capital investment to reproduce the business, to convert the dead physical property into a live going concern."

In ascertaining what it would cost to convert the dead physical property into a live going concern the exhibit estimates the expenses for three periods of time,

- 1, the preliminary period;
- 2, the construction period; and
- 3, the development period.

In the preliminary period expenses must be incurred for preliminary studies by experts of the telephone conditions in the community, of the size, growth and future prospects of the community, and of the location of industries and the like. Also legal expenses in con-



nection with the drawing of franchises and charters, and obtaining rights thereunder.

In the construction period, which includes the time during which the physical property is being constructed, there are expenses of maintenance, of depreciation, of building up the organization of employees, and of obtaining subscribers.

In the development period, which includes two years from the beginning of operation, there are expenses resulting from losses  
2415 or deficits due to the business not being up to normal, that is, to the fact that the normal number of subscribers is not obtained until after two years from the time operation is begun.

For the preliminary period the exhibit estimates the expenses to be \$12,280.00; for the construction period, \$493,939.00; and for the development period, \$486,662.00; making a total estimate of the cost of establishing business of \$992,881.

The exhibit consists of 37 pages and gives in detail the data used in arriving at the total estimate.

#### PLAINTIFF'S EXHIBIT No. 22.

##### *Routines and Instructions.*

F. M. Hoag, Witness.

This Exhibit, comprising nine pages of mimeographed material, gives a list of 173 routines and instructions used by The Southwestern Telegraph and Telephone Company in operating its business such as, "Pay Roll Routine; Reporting Accidents; Contract Order Routine; Destruction of Records; Method of Depositing Collections; Stationery—Usage and Accounting; Routine Tests on Common Battery Equipment; Final Report on Estimates; Tests on Cable Installations; Inspections; Annual Inventory of Supplies and Tools; Handling Carbon Protector Blocks and Micas; First Aid Kits; Wage  
2416 Schedule and Classification of Operating Employees; Protection of Employees in case of fire or other emergencies; Sunday Relief Schedule; Uniform Code Ringing; Service Complaints; Handling Western Union Telegrams by Telephone; Methods and material for Standard Multiple Marking and use of Multiple Check Forms; Teacher's Manual on the Selection and Training of Telephone Operators; Handling Calls intercepted on account of Directory error; Instructions to Chief Operators for Handling Calls of Subscribers to whom service is denied; with regard to the Soliciting of Advertising for Directories;" etc.

## PLAINTIFF'S EXHIBIT No. 23.

F. M. Hoag, Witness.

The Southwestern Telegraph and Telephone Company.

Houston Exchange.

*Records.*

NOTE.—Samples of the records mentioned in this Exhibit were filed in a separate cover as part of the Exhibit—  
No more copies available.

2417

The Southwestern Telegraph and Telephone Company.

Houston Exchange.

*Records.*

The following is a list of the more important records of property maintained in Houston and the number of each required in the various departments for the Houston Exchange. The number appearing in the "Reference Number" column refers to the sample of the record contained in the cover.

Reference number.	Form number.	Name of record.	Description.	Number. required.
1	S-7464-T	Subscribers' card record.	Cards which show the name, billing address, location of telephone etc. for each subscriber	30,258
2	S-6473-A, B & C	P. B. X. Station card.	Cards on which is kept a record of all Private Branch Exchange Stations.	2,469

## PLAINTIFF'S EXHIBIT No. 23—Continued.

Reference number.	Form number.	Name of record.	Description.	Number. required.
3	S-6472	P. B. X. Index card.....	Cards on which is kept a record of each Private Branch Exchange.....	146
4	S-6468-A, B & C	Subscribers' Line Record.....	Cards on which is kept a record of each subscriber's line.....	19,500
5	S. N. 77	Employees' service Record....	Cards on which is kept a complete record of each employee.....	737
6	S-9400-A to C	Contract Order.....	A form originated in seven copies (A-G) for each new subscriber only 3 copies (A-C) retained.....	140,880
7	S-6481-K. O. T.	Daily Work Report.....	A daily work report showing time of employees and listing material used and re-covered.....	728
8	S-7406	Lines Available for assignment (New Form).....	Forms showing line number, panel and jack spaces which can be used for new subscribers.....	134
2418				
9	S-7408-A & B	Numerical Directory Record...	Loose leaf forms showing the names and addresses of all subscribers—listed numerically.....	479
10	S-7410	Street Record.....	Loose leaf forms showing the telephone number and name of subscriber to each telephone, arranged by street location....	1,237
11	S-7407	Panel and Jack Record.....	Forms on which is kept a record of subscribers' line and station number on each jack.....	446

12	S. N. 54	Employees' tool account.....	Forms on which is kept a record of all tools issued to employees .....	140
13	S-6316	Stock Record.....	Forms on which is kept a record of all material ordered and disbursed and the amount in stock .....	60
14	S-6454	Cable Record.....	A record of all Underground, Aerial, Block and House cables showing the cable pairs appearing at each terminal and the line number of each subscriber's line working on the various cable pairs.....	516
15	.....	House Cable.....	Cloth tracings showing the layout and details of all cables in buildings.....	29
16	.....	Block Cable.....	Cloth tracings showing the layout and details of all cables attached to the outside of buildings .....	115
17	.....	Underground Conduit.....	Cloth tracings on which is shown a record of all main and subsidiary conduit.....	38
2419				
18	.....	Underground Cable.....	Cloth tracings which show the layout and all details of main and subsidiary underground cable .....	7
19	.....	Poles and Aerial Cable.....	Cloth tracings which show all Poles and Aerial Cable .....	24
20	.....	Skeleton Aerial Cable Record..	Cloth tracings on which is shown record of Aerial Cables and the distribution of cable pairs .....	8

2420

## PLAINTIFF'S EXHIBIT No. 31.

*Detail of Unit Costs.*

H. P. Topping, Witness.

This is a bound volume comprising 138 mimeographed pages showing the unit costs and material prices which were used by the witness in making his appraisal of The Houston Exchange Property. It sets forth in detail the cost of the material and the labor and incidental charges involved in constructing the property.

## PLAINTIFF'S EXHIBIT No. 32.

*Valuation of Plant.*

H. P. Topping, Witness.

This is a bound volume containing 52 pages, mimeographed showing in detail the witness' estimate of the reproduction cost new less depreciation of The Houston Exchange Property.

On pages 1-B and 1-C is a summary reading as follows:

The Southwestern Telegraph and Telephone Company.

Houston, Texas.

Topping Valuation Co.

## Summary.

	Reproduction cost new.
Real estate:	
Land .....	\$249,066
2421 Buildings:	
Preston .....	405,700
Hadley .....	78,224
Taylor .....	41,084
Warehouse .....	366
Total Buildings .....	525,374
Equipment:	
Central Office .....	1,894,837
Other Equip. of Central Office.....	17,167
Total Equipment .....	1,912,004

## Subscribers' station equipment:

Reproduction  
cost new.

Apparatus .....	362,295
Installations .....	92,358
P. B. X. ....	67,184
Block Wires .....	7,649
Booths & Special Fittings .....	9,754

Total Sub. Sta. Equip. ....	539,240
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## Distributing system:

Poles .....	555,641
Aerial Cable .....	861,822
“ Wire .....	168,461
U. G. Conduit Main .....	805,670
“ “ Subsidiary .....	113,594
“ Cable Main .....	827,029
“ Subsidiary .....	162,558
Right of Way .....	32,565

2422 Total Dis. System .....	3,527,340
Sub. Total (A) .....	6,753,014

## Central equipment:

Furniture & Fixture Local .....	27,788
“ “ “ General Prorate 50% .....	13,893
Tools .....	10,591
Motor Vehicles .....	12,467

Total General Equipment .....	64,739
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Total Physical Property .....	6,817,753
Working Capital (Supplies and Cash 4%) .....	272,710

Total Physical Property Including working capital .....	7,090,463
Cost of Establishing Business, 20% of \$6,753,014. ....	1,350,603

Grand Total .....	\$8,441,066
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Reproduction Cost new less depreciation .....	6,409,006
Working Capital (Cash & Supplies) .....	272,710
Cost of establishing business .....	1,350,603

Present Minimum Value .....	\$8,032,319
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2423

## PLAINTIFF'S EXHIBIT No. 36.

*Report on Appraisal of Property of the Southwestern Telegraph and Telephone Company, Local Telephone Plant, Houston, Texas.*

Geo. P. Player, Witness.

This is a bound printed volume consisting of 59 pages showing the witness' estimate of the reproduction cost new less depreciation of The Houston Telephone Exchange Property.

Page 54 contains the witness' estimate of the necessary amount to be paid out of revenues each year as the Annual Reserve for Depreciation. Page 1 contains the following Summary:

## Final Summary.

Classification of plant.		C. N.	C. L. D.
1.	Land .....	\$178,500	\$178,500
2.	Buildings .....	463,131	395,814
3.	Central Office Equipment .....	975,668	882,283
4.	Subscribers' Equipment .....	357,087	308,732
5.	Distribution System, Aerial .....	1,021,043	886,587
6.	Distribution System Underground..	1,179,822	1,051,314
		<hr/>	<hr/>
7.	Total .....	\$4,175,251	\$3,703,230
8.	Overhead Expenses, 17% .....	709,793	629,549
		<hr/>	<hr/>
9.	Total .....	\$4,885,044	\$4,332,779
10.	Right of Way .....	26,743	26,743
11.	Furniture and Fixtures, Local.....	9,767	7,814
12.	Furniture and Fixtures, General Office .....	7,412	5,930
2424			
13.	Tools and Teams .....	21,509	16,639
		<hr/>	<hr/>
14.	Total .....	\$4,950,475	\$4,389,905
15.	Stores and Supplies .....	25,000	25,000
16.	Working Capital .....	137,814	137,814
17.	Cost of Establishing Business.....	990,095	990,095
		<hr/>	<hr/>
18.	Grand Total .....	\$6,103,384	\$5,542,814

NOTE.—C. N. Denotes Cost New; C. L. D. Denotes Cost Less Depreciation.

## PLAINTIFF'S EXHIBIT No. 37.

*Unit Costs and Material Prices.*

C. A. Gates, Witness.

This is a bound mimeographed volume containing eight pages lettered from A to H inclusive and 155 pages showing the unit costs



and material prices that were used by the witness in appraising the physical property of The Houston Exchange. It sets forth in detail the cost of the material and the labor and incidental charges involved in placing the material in the plant.

2425

## PLAINTIFF'S EXHIBIT No. 38.

*Appraisal.*

C. A. Gates, Witness.

This is a bound mimeographed volume consisting of 251 pages showing the witness' estimate of the reproduction cost new less depreciation of The Houston Telephone Exchange. Page 251 contains the witness' estimate of the necessary amount to be paid out of revenues each year as the Annual Reserve for Depreciation which reads as follows:

## Houston Exchange.

*Weighted Annual Rate of Reserve for Replacements.*

	Annual rate of reserve.	Per cent of total reproduction cost in ea. class of plant.	Equated annual rate of reserve.
Land .....	...%	4.22%	....
Buildings .....	2.5	10.72%	.268
Pole Line.....	11.	8.16%	.898
Aerial Cable.....	6.	12.99%	.779
Aerial Wire, Line.....	13.	1.87%	.243
Aerial Wire Drop, 20% of (13%) ..	2.6	1.05%	.027
Underground Conduit, Main.....	2.5	11.89%	.297
Underground Conduit, Subsidiary ..	7.	1.57%	.120
Underground Cable, Main.....	3.	11.13%	.334
Underground Cable, Subsidiary...	7.	2.16%	.151
Underground Cable, House Cable .....	7.	.28%	.120
2426 Right of Way.....	4.	.54%	.022
Central Office Equipment..	10.5	24.89%	2.613
Station Apparatus.....	11.	3.91%	.350
Station Installations 20% of (11%) .....	2.2	2.17%	.048
Interior Block Wire 20% of (12%) .....	2.4	.20%	.005
Private Branch Exchange.....	10.5	1.25%	.131
Boots & Special Fittings.....	11.	.07%	.008
Other Equipment of Central Office .....	10.	.17%	.017
Furniture & Fixtures.....	10.	.36%	.036
Tools and Store Equipment.....	....	.21%	....
Stable and Garage Equipment....	....	.19%	....
Total Physical Property....	....	100%	6.376%

NOTE.—The average annual rate of reserve installations, drops and block wires is determined as follows:

The rate given in parenthesis is the proper rate, assuming that the installations, drops and block wires remain in service for their entire life. Owing to disconnection of service by subscribers, many installations, drops and block wires are removed or abandoned and charged to expense account at the time service is discontinued. It is estimated that about 80% of the installations, drops and block wires are treated in this manner. The rate is applicable only to the balance and therefore figured at 20% of the rate shown in parenthesis.

2427 On page 1 is a summary of the Appraisal reading as follows:

The Southwestern Telegraph & Telephone Company.

Houston Exchange.

*Summary of Appraisal.*

Reproduction cost:	
Land .....	\$210,850
Buildings .....	535,081
Distributing System .....	2,577,511
Central Office Equipment .....	1,242,514
Station Equipment .....	378,921
	<hr/>
	4,944,877
Contingencies and Omissions, 3% .....	148,346
	<hr/>
	5,093,223
Engineering, 4% .....	203,728
	<hr/>
	5,296,951
General Expense, 2% .....	105,939
	<hr/>
	5,402,890
Other Equipment of Central Offices (Furniture & Fixtures) .....	9,380
Furniture and Fixtures .....	19,894
Tools and Store Equipment .....	11,638
Stable and Garage Equipment .....	10,219
	<hr/>
	5,454,021
Taxes .....	75,260
	<hr/>
	5,529,281
2428	
Interest During Construction .....	465,750
	<hr/>
Total Reproduction Cost of Physical Property	5,995,031

Cost of Establishing Business—Going Value.....	987,996
Working Capital including Supplies.....	238,818
Total Reproduction Cost, Houston Exchange.	7,221,845

Reproduction cost less depreciation:

Total Reproduction Cost of Physical Property.....	5,995,031
Present or Percent Condition of Physical Property..	92.88
Appraisal of Physical Property—Present Condition.	5,568,185
Cost of Establishing Business—Going Value.....	987,996
Working Capital, Including Supplies.....	238,818
Total Reproduction Cost Less Depreciation..	6,794,999

### PLAINTIFF'S EXHIBIT No. 39.

*No Title.*

C. A. Gates, Witness.

This Exhibit consists of 18 pages of typewritten matter and blue print curves showing the population of the City of Houston, its growth, assessed valuation per capita, bonded indebtedness, cost of municipal improvements, revenue of the City from all sources except bond issues, expenditures of the City of Houston, building permits issued by the City, bank deposits and bank clearings. The Exhibit was offered in connection with the witness' testimony concerning the history of the community and the subject of a fair return.

2429

### PLAINTIFF'S EXHIBIT No. 60.

*Report on the Reproduction Cost of the Southwestern Telegraph & Telephone Company at Houston, Texas.*

James E. Allison, Witness.

This is a printed volume consisting of 99 pages in which is set forth in detail the witness' appraisal of the Houston Telephone Exchange property.

Pages 3 to 10 inclusive of the exhibit contain the following Summary:

2430 *The Reproduction Cost (Exclusive of Toll Equipment).*

TABLE 1.

Summary of Reproduction Cost of Physical Property.

1. Land .....	\$215,187.50
2. Buildings .....	476,300.00
3. Distribution system .....	2,599,485.66
4. Subscribers' Station and P. B. X.....	373,457.01
5. Central office equipment .....	1,174,257.92
6. Subtotal .....	<hr/> \$4,838,688.09
7. Omissions and contingencies, 5 per cent items 3-5 .....	207,360.03
8. Engineering, 5 per cent, Items 2-7.....	241,543.03
9. Construction administration, 1 per cent, items 1-8 .....	52,875.91
10. Taxes and insurance (1 year mean period) ..	69,573.09
11. Interest during construction (1 year mean period), Items 1-10 .....	432,803.21
12. Subtotal .....	<hr/> \$5,842,843.36
13. Tools and store equipment .....	11,637.54
14. Automobiles, horses, wagons, motor cycles, etc.	10,219.01
15. Office furniture and fixtures.....	19,894.21
16. Subtotal .....	<hr/> \$5,884,594.12
17. Working capital (a) cash.....	125,000.00
(b) supplies .....	82,464.08
18. Total physical property .....	<hr/> \$6,092,058.20
Cost to establish business, see Table II.....	1,794,124.00
Total reproduction cost .....	<hr/> \$7,886,182.20

In preparing our report on the present reproduction cost of this property, we have used an inventory furnished us by the Company, approximately as of October 1st, 1919. For all practical purposes, the inventory is as of to-day and for obtaining present reproduction costs we have applied prices so far as obtainable as of December, 1919.

Table I shows the results of our work as applied to the 2431 different classes of property. Taking up the items in order, the following paragraphs are a brief description of our methods in coming to the conclusion set forth.

## Land.

(Item 1—Table I.)

In assigning our amount as the present value of the land in the property under consideration, we have adopted the figures as reported by local real estate experts furnished us by the company.

## Buildings.

(Item 2—Table I.)

In assigning a present reproduction cost to buildings, we have used the opinions of local contractors, whose figures were also furnished us by the company.

## Distribution System.

(Item 3—Table I.)

In making our estimate of the present reproduction cost of the distribution system, we have taken the unpriced inventory, furnished us by the Company and applied to each item or class of items, what in our opinion, would be a conservative cost of labor and material as of December, 1919. In making up these costs, we have used such present prices for material as were obtainable from manufacturers and dealers and from a consideration of the later bills and vouchers in the files of the Company's records. Our labor estimates we based upon tables of wage costs kept on file in our office.

## Subscribers' Stations and P. B. Exchanges.

(Item 4—Table I.)

In obtaining our results on the item, we have used the detail inventory of the property and affixed costs obtained in the same manner as for item 3—Table I.

## Central Office Equipment.

(Item 5—Table I.)

In making our estimate of the present cost of reproduction of the Central Office Equipment we have used a detailed inventory furnished by the Company to which we applied costs obtained from our files for similar installations adjusted to present day prices of the elements entering into the manufacture and installation of such equipment.

## Overhead Construction Costs.

(Items 7, 8, 9, 10, 11—Table I.)

In estimating our Overhead on Construction Costs, we have used factors and percentages, which are in our opinion, conservative and which can be amply supported by the decisions of courts and commissions.

2433 In making up our figure for Interest during Construction and for Taxes and Insurance during Construction, we have assumed a period of reproduction of two years for the physical plant.

Office Furniture and Fixtures, Tools and Store Equipment, Stable and Garage Equipment.

(Items 13, 14, 15—Table I.)

As the cost of making detailed inventory and following changes of prices to apply in a reproduction cost appraisal on these items is out of all proportion to the importance of the amounts. It is customary to take for them the showing of the book accounts. This we have done in our report.

## Working Capital.

(Item 17—Table I.)

The Item of working capital includes three elements: First, Cash necessary for operation. Second. The permanent balance of subscribers' accounts owed. Third. The stores and supplies carried. The first two elements we have included in a round sum estimate of \$125,000. The third element is taken from the books of the Company.

## TABLE II.

*Intangible Property or Cost of Establishing Business.*

(Reproduction Cost.)

2434	1. Cost of Promotion.....	\$50,000.00
	2. Organization and Legal Cost.....	25,000.00
3.	Capitalization of Initial Risk 15% on Item 18, Table I, and items 2 and 6, Table II.....	925,533.33
4.	Initial Deficit 3% for three years on Item 18, Table I and Items 2 and 6, Table II.....	553,320.00
5.	Cost of assembling Capital 3% on Item 18, Table I, and Items 2 and 6, Table II.....	185,106.67
6.	Cost of Attaching Business, \$2.00 each on 26,- 582 installations.....	53,164.00
7.	Total .....	\$1,794,124.00

In estimating the cost of reproduction a given utility property, when such estimate is to be used as a measure of present value, it becomes necessary to take into account, not only the amount of capital necessary to pay for actual construction work of the plant, but, also to take into account the probable cost of obtaining the capital, of properly rewarding the promoters of the enterprise, of paying for legal and other organizations expenses, of building up the business to a point of reasonable return, and of accounting for probable deprivation of return upon capital during the period before the property becomes a going concern. This portion of the value of an established utility is variously known as Intangible Property or Cost to Establish the Business, or as Going Concern Value.

It is necessary to arrive at the estimate of Going Value by the method of probable costs, because the returns which actually give the value are, in rate or confiscation cases, in question, and, therefore, cannot be used as a judicial measure of value.

2435 The following is a brief discussion of the items of Cost to Establish Business or of Going Concern Value as measured by costs, which in our opinion, should be included in present value as measured by cost to reproduce.

All of these figures we have endeavored to place at minimum estimates, yet the total amount to be added to physical property may appear large to those unaccustomed to the study of the real expense, other than for physical property necessary in the establishment of any large enterprise.

If each item of estimate is taken by itself and analyzed, it will be found that an investor would have to consider each as a cost to him in creating such a property, and to those having knowledge of such costs, the percentage assigned to each cannot appear excessive.

### Cost of Promotion.

(Item I—Table I.)

The beginning of any enterprise of the magnitude of the present property engaged in the Houston Telephone service, especially if it were to be produced as a whole, would require the services of men of considerable ability, to organize and place in motion the various forces required to successfully carry on the different steps in the creation of the plant and business.

2436 The services of such men are necessary for initiation and initial management, and they are, when the enterprise is successfully carried out, the creators of value and are entitled to proper reward.

The promoter usually receives his reward on a speculative basis. Sometimes it is exorbitantly high, sometimes he loses. In assigning \$50,000 as our item for this cost we have attempted to use a low figure at which such service might be bought and paid for on a non-speculative basis.



## Cost of Initial Organization.

(Item 2—Table II.)

As an evident expense in creating any property similar to the one under discussion is the cost of preconstruction organization, including legal and attorney's expense. We have adopted in this case the round-figure estimate of \$25,000.

## Capitalization of Initial Risk.

(Item 3—Table II.)

In the initial stage of any enterprise, before the ability to earn returns is established there is, of course, a very considerable element of apparent risk. In order to induce the investor to place his savings in such an enterprise it is necessary to hold out to him the prospect either risk, or to convince him that his capital will undergo an enhancement in value. Under the circumstances of the regulation of public utilities, it is certain that only a moderate or so-called reasonable return upon a determined amount of capital can be expected. It follows that any investor who is not being deceived, in placing his money in an enterprise, such as the reproduction of the Houston Telephone plant and service, would refuse to enter his capital unless he could be assured that he would be allowed to earn these moderate returns on a greater amount than he actually invests. This is, in short, the familiar financial fact of the necessity for selling securities in a new enterprise at a discount.

We have assumed in our estimate of the financial costs of reproducing the property under consideration that the investors would require the prospect or the right to have their capital enhanced at least 15 per cent to induce them to take the initial risk. This would mean a discount on the securities of only 13 per cent, i. e., they would sell at 87 per cent of par. Such a concession would be absolutely necessary to obtain the money for such a project and would therefore be a real and actual cost of reproduction. Under competent financial advice, no investment in such an enterprise would be made without a definite understanding with the regulatory powers providing for reimbursement for initial risk.

## Initial Deficit.

(Item 4—Table II.)

2438 In the reproduction of a Telephone system such as that of Houston, the business of the Company could not be expected to spring into immediate existence upon the completion of the plant. There would be a considerable period under the most favorable circumstances, when the investors would be deprived of a portion of a reasonable return on their capital. We have taken



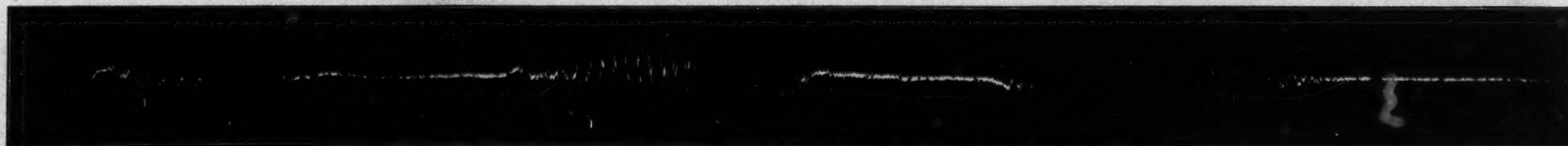
CHANGES IN THE ELECTRICAL CURRENT WHEN THE WORD "NEW YORK" IS SPOKEN INTO THE TELEPHONE



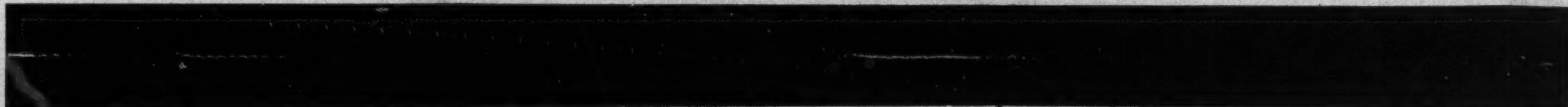
CHANGES IN THE ELECTRICAL CURRENT WHEN THE WORD "SAN FRANCISCO" IS SPOKEN INTO THE TELEPHONE



CHANGES IN THE ELECTRICAL CURRENT WHEN THE WORD "ATLANTIC" IS SPOKEN INTO THE TELEPHONE



CHANGES IN THE ELECTRICAL CURRENT WHEN THE WORD "PACIFIC" IS SPOKEN INTO THE TELEPHONE



CHANGES IN THE ELECTRICAL CURRENT WHEN THE WORD "AMERICA" IS SPOKEN INTO THE TELEPHONE

THE ABOVE ILLUSTRATIONS REPRESENT THE CHANGES IN THE ELECTRICAL CURRENT WHICH TAKE PLACE IN A TELEPHONE CIRCUIT WHILE THE WORD INDICATED IS SPOKEN INTO THE TRANSMITTER ATTACHED TO THAT CIRCUIT. ABOUT FIVE FEET OF SUCH A PICTURE REPRESENTS THE CURRENT CHANGES WHICH TAKE PLACE ON ANY POINT ON THE CIRCUIT DURING THE PERIOD OF ONE SECOND.



for this period only three years and an average deficit of only 3 per cent, as figured on the cash items of reproduction cost. The probability is that a longer time and a higher per cent would be the actual result. This item is a well-established one in court and commission decision.

### Cost of Assembling Capital.

(Item 5—Table II.)

Money for building large utilities is not, as a rule, obtained from a single source. Through the medium of underwriters, investment bankers and brokers, the capital is gathered from many and widely scattered sources. The cost of this service is a necessary cost and is paid by the investor as a part of his investment. Unless it is to be confiscated, it must be recognized as a part of the capital in the service of the public. In this case we have placed the item at 3 per cent as a minimum estimate.

### Cost of Attaching Business.

(Item 6—Table II.)

2439 In building up the business of the Telephone Company, it is necessary to spend money to obtain subscribers. The average amount of this cost for each subscriber, is, or should be, charged to capital account when he is connected with the system just as is the cost of installing his telephone. It remains as a capital item until he is disconnected from the system. There is constantly engaged in the business as a part of capital a cost for each subscriber equal to the cost of procuring him as a customer.

The usual allowance for this charge is approximately four dollars per installation, but in this report we have used \$3.73 for the original cost and \$2.00 per station for the reproduction estimate.

Plaintiff's Exhibit No. 80 is as follows:

(Here follows Plaintiff's Exhibit No. 80, marked page 2440.)

2441 A. E. SCOTT, a witness for the complainant, was recalled and testified as follows:

Direct examination

(Questions by Mr. J. D. Frank:)

My name is A. E. Scott and I live in St. Louis. I have already been sworn in this case. I am a statistician for the Southwestern Bell Telephone System.

I have prepared a statement from the books of the Southwestern Telegraph & Telephone Company showing the original cost of the completed buildings owned by the Company in the City of Houston. These books show that the original cost of the Preston Building complete as of November 30th, 1919, \$201,097.68. The books show the original cost of the Hadley Building complete \$51,481.14. The books show the original cost of the Taylor Building, complete, \$22,419.15. Both Mr. Hoag and Mr. Gates who have testified as to the value of the property in this case and have made appraisals, have included in their appraisal an item of working capital, including supplies, amount- to \$238,818.00. They stated that they got that figure from the accounts. I am the man who prepared that figure.

I have prepared an exhibit showing how I worked out this working capital.

Before introducing this exhibit in evidence I will explain to you what is meant by "Working Capital", what it includes or covers and why it is necessary to include that in a valuation of a property. In addition to the physical property of a concern, a business needs capital other than that, to meet its current obligations, provide an adequate supply of materials and stores a sufficient amount of cash to maintain and retain its credit; it is known by various names; some people call it "Liquid Assets," "Current Assets," "Quick Assets," and other similar titles, but it is capital in liquid or variable form, to meet the current needs of a company. I have some definitions here of experts and commissions; I would like to read one or two of them.

Mr. Robert H. Whitten, in his book of "Valuation of Public Service Corporations," page 287, states:

"This working capital includes stores and supplies on hand and sufficient funds in addition to bridge the gap between outlay and reimbursement." Robert H. Whitten is an expert electrical engineer.

2443 Mr. Howard: Mr. Frank, I might say there is no contention on the amount—we are not contesting the facts of it, there must be some working capital and supplies that is undisputed.

Well, some of these definitions show or outline the method of obtaining a Working Capital, which method I have followed and justify the method I have used. I would like to read a few of them to get that in. Mr. C. L. Corey in a table on rates for gas service read before the Nineteenth Meeting of the Pacific Coast Gas Asso-

ciation and printed in the American Gas Light Journal October 21st, 1911, page 260, gives a more correct statement, in which he says:

"From the amount of working capital usually carried by such companies, and from the amount that is required by other similar public utility corporations, it appears that, as an average for the year, a sum equalling the accounts receivable and cash on hand, less the accounts payable and consumers' advance payments, is a reasonable allowance."

Another expert in the case of Peoples Gas Light & Coal Company of Chicago, which was another rate case, says that "the best information as to what constitutes a reasonable allowance for working capital, is supplied by the balance sheets showing the current assets and current liabilities." That is exactly what I have done.

Mr. Hammond V. Hayes in his book "Public Utilities, Their Cost New and Depreciation," at page 230, says:

"The items to be included in working capital are supplies of all kinds, cash for current use in sufficient amounts to insure economical and safe operation of the plant, and the balance between bills and accounts receivable and accounts payable."

Here is the opinion of the Wisconsin Railroad Commission in its Report, Volume 5, at page 316:

"Plants which are running, or in actual operation, must have working capital as well as fixed capital. In this case the latter, or the fixed capital, is largely represented by the cost of reproducing the plants, while the working capital is, in part, represented by the figures given in that table for "stores and supplies." The stores and supplies there given, however, do not represent all the working capital the plant requires. Plants of this kind, the same as practically all other business enterprises, must have on hand a reasonable cash balance and other current resources in order to operate economically and effectively. That this is the case is almost self-evident. Just what sum represents a fair amount for working capital, is nearly always a matter of judgment, and to this there is no exception in this case."

In another case, the Wisconsin Railroad Commission says "Working Capital consists of supplies of all kinds and cash for current use and may also include other items. It is necessary as any other part of the Investment."

The Public Service Commission of New York for the First District, case of Mayhew et al. vs. Kings County Lighting Company, 11 P. S. C. R. First District 659 (1911) stated:

"A Gas Company must purchase materials and supplies, must pay its employees, it must distribute its commodity to consumers in advance to payment for such service. This requires a fund ordinarily



called 'working capital.' It is reimbursed from operating receipts from time to time, but originally is provided from capital."

The Maryland Public Service Commission in re Chesapeake & Potomac Telephone Company (rate case) P. U. R. 1916-C, at page 953, in the instruction of the appraisers issued in this investigation, defines "working capital," as follows:

"Working capital is the amount of cash and supplies, or  
2446 without available assets, readily convertible into cash without pecuniary sacrifice, reasonably necessary to be kept on hand by the Company for purposes of meetings its current obligations as they arise, and enabling it to operate economically and efficiently. It should be taken to embrace such stock of materials and supplies as is reasonably necessary to enable the company to make repairs and minor replacements chargeable to plant, without unreasonable delay or expense, and to meet operating contingencies and emergencies not taken care of by other reserves or allowances, and generally should be a sum reasonably sufficient to bridge the gap between outlay and reimbursement."

"Q. Now, you have one definition there from some court before you, Federal court?"

"A. Yes, I have a definition by Judge Hough in the frequently referred to case of Consolidated Gas Company vs. City of New York, 157 Federal 849, in which he says:

"That phrase means the amount of cash necessary for the safe and convenient transaction of a business, having regard to the owners' ordinary outstandings, both payable and receivable; the ordinary condition of his stock of supplies in hand; the natural risk of his business, and the condition of his credit; and unless these  
2447 matters, and perhaps others, be looked into, no comparison could be drawn between one business and another, or even between those of the same general nature."

That is what the experts and the commissions and the courts have said about the subject.

I have prepared an exhibit showing how I determined the amount of working capital for the City of Houston.

Mr. J. D. Frank: We offer that in evidence as Plaintiff's Exhibit No. 41.

(The Document referred to was thereupon received in evidence, marked Plaintiff's Exhibit No. 41 and is as follows:)



2448

## PLAINTIFF'S EXHIBIT No. 41.

A. E. Scott, Witness.

The Southwestern Telegraph &amp; Telephone Company.

*Working Capital for Houston, Texas, September 30, 1919.*

Item.	Average monthly balances 9 mos. ended Sept. 30, 1919.	
	Amount.	Total.
Cash .....	\$522,005.16	
Employees' Working Funds...	51,512.16	
Accounts Receivable from Sub- scribers and Agents.....	376,696.96	
Accounts Receivable from Sys- tem Corporations .....	184,273.47	
Accounts Receivable from Kis- cellaneous Debtors .....	56,214.41	
Materials and Supplies.....	583,981.88	
Prepayments .....	40,256.56	
Total Working Assets.....		\$1,914,940.60
Audited Vouchers and Wages Unpaid .....	22,021.08	
Accounts Payable to System Corporations .....	160,202.26	
Accounts Payable to Miscellane- ous Creditors .....	9,021.91	
Matured Rents Unpaid.....	29.73	
Service Billed in Advance....	12,108.72	
Other Accrued Liabilities not due .....	50,145.87	
Total Working Liabilities .....		253,520.57
		<u>1,561,420.03</u>

Item.	Average monthly balances 9 mos. ended Sept. 30, 1919.	
	Amount.	Total.
Net Working Capital for Com- pany .....	.....	
Deduct Amounts allocated ac- cording to fact .....	.....	
Accounts receivable from Sub- scribers and agents.....	376,696.96	
Prepaid Directory Expense....	10,731.91	
Total .....	387,428.87	
Service Billed in Advance....	12,108.72	
Net Direct Items.....		375,320.15
Balance to be apportioned on basis of Plant .....	.....	1,186,099.88
Book Cost of Plant Sept. 30, 1919—Company .....	\$27,027,766.32	
Book Cost of Plant Sept. 30, 1919—Houston .....	3,816,587.60	
$\$3,816,597.60 \div \$27,027,766.32 = 14.121\%$		
14.121% of \$1,186,099.88....	167,489.16	
Direct Items:		
Accounts Receivable from Subscribers and Agents..	69,285.44	
Prepaid Directory Expense	2,043.89	
Total Working Capital for Houston....		\$238,818.40

2449 In determining the amount of working capital I went to the books of the Company and made a study of the actual working capital used for the first nine months of this year, 1919.

I will now take this exhibit and explain it to you. The heading there, it says "Average Monthly Balance for 9 months ending September 30th, 1919." By "Average Monthly Balance," I mean I have taken the balance in certain accounts which are listed below at the first of the month and at the end of the month and determined an average for the month. I did that for each of the accounts after each nine months and then made an average for each account for the nine months by taking an average of these averages, (That is what we termed, "an average of averages,") and developed these facts: The actual cash on hand or in banks, the average amount for the nine months, was \$522,005.16. All of these figures are for the company as a whole. The Employees' Working Funds,—those are the funds which we advance to employees out of the current bills, some of the employees have perhaps \$5.00 and some perhaps several

hundred. That is for the purpose of carrying on the business of the Company, the small amounts are paid from the general cash fund but the large amounts are paid in the field. They are required to turn in vouchers showing just how much of this money is spent and then are reimbursed from the general fund. The total of that is \$51,512.16. The average amount of accounts receivable due from subscribers and agents,—that is the amount due for telephone 2450 service,—is \$376,696.96.

"Subscribers and Agents," is the title of the account as provided for by the Inter-State Commerce Commission. At one time we used to have agents, we would take our accounts in a certain town and charge them up to an agent and he would be charged up with the total amount of it, and would charge it back in turn. There is not very much of that done now. The accounts receivable from system corporations amounts to \$184,273.47. That is the amounts due from various telephone companies. A "system corporation" is a misnomer. That is the account name provided by the Inter-State Commerce Commission but it involves not only system telephone companies but all companies. That is principally toll business.

Accounts receivable from Miscellaneous Debtors. That is accounts receivable from all others than items from subscribers or telephone companies; principally from the Western Union Company, I think. That amounts to \$56,214.41. The materials and supplies \$583,981.88. That is the average amount of materials and supplies we had on hand in the State of Texas at various points. Prepayments, \$40,256.56. Those are such prepayments as are made, such as insurance, which are not chargeable to the current month in which the expense is incurred. If you buy insurance, you may pay a premium for two years or three years or five years; instead of charging up all that expense to the expense account at the 2451 time, we charge it to the prepaid account and from month to month as the expense becomes applicable, we charge off these amounts and credit the prepaid account. Insurance is a very good example of it. Also the rent. We pay rent in advance. The total, of these items, gives what the Inter-State Commerce Commission describes as "total working assets," \$1,814,940.60. From the working assets, we have deducted working liabilities. In other words, we do a certain amount of our business on credit. We owe people, as well as people owing us. So, in order to get at the nature of the working capital, we have got to make allowance for the amounts we owe others. One item is "Audited Vouchers and Wages Unpaid, \$22,021.08;" that represents the amounts of bills that have been approved and should have been paid but were not paid at the end of the month.

The total working liabilities is \$253,520.57. Deducting the Liabilities from the Assets, we get the net working capital for the company, which is \$1,561,420.03. That is the actual working capital which was used by the Company for the State as a whole during these nine months. I took these nine months because I was studying the problem back in October or November when the nine months period figures were available. Certain working capital can be

allocated to an exchange directly on the basis of fact. Certain other amounts must be allocated on some other sort of a pro rate or proportion. Of the amounts that can be allocated from subscribers and agents, we know that so much is applicable to Houston, so much to Dallas, and so much to San Antonio, etc. We know that the prepaid directory expense is applicable to some particular town and the total they amount to in the case of accounts receivable is \$376,696.96; the prepaid directory amounts to \$10,731.91. The total, \$387,428.87. That is for the State as a whole, directly allocated working assets.

This item, "Service Billed in Advance," we don't have any of that at Houston, but throughout the territory and the smaller towns especially we have farmer lines. We bill them for a year in advance; in some cases three months in advance; in other cases, that is an amount which we have billed and which we have not given service and it is a liability because we must give that service. Deducting this "Billed in Advance" cost and all other items which are allocated directly to Exchange, deducting that, we get a balance of \$1,186,099.86. That must be apportioned on some basis other than fact, because, we can't apportion it directly to an exchange. The basis I have used is the plant cost basis, taking the plant of the company and the plant of Houston, getting the relation between the two and determining what that per cent is and applying that per cent to this unapportioned article. The book cost of the plant as of September 30th, 1919, of the company was \$27,027,766.32, that is for the physical property only, and the book cost of the Houston property as of the same date, physical property only was \$3,816,587.60. Dividing the Three Million Eight Hundred Thousand by Twenty-Seven Million, Twenty-Seven Thousand, we get 14.121%, practically 14% applicable to Houston. Applying this per cent of 14 and a fraction per cent to the million one hundred and eighty-six thousand, we get an apportioned item of \$167,489.16. We have in addition to that, the direct items at Houston. That is, the accounts receivable from subscribers and agents, \$69,285.44, and a prepaid directory expense of \$2,043.89. Adding these three items, we get the total working capital for Houston of \$238,818.49. The working capital is carried for the Company as a whole, that is, for the State of Texas, and a certain part of it is allocated to each exchange, based on the actual facts. All of these figures are actual balances as shown by our books.

The reason that working capital is carried for the State as a whole instead of having a certain amount of each particular exchange as a part of the working capital is, we find it very much more economical to handle our cash account in one general fund, make all payments from that, instead of having a cash account at each exchange to meet its current needs and such emergencies as may arrive.

2454 We have a sample of what may happen in an emergency case. The 1915 storm here, there was a great deal of property destroyed here. I believe the loss was something like Fifty or Sixty Thousand Dollars. They had hurry calls for cash and materials, in order to rebuild the plant and put the plant in proper con-

dition to operate. We simply called on the State to spend the money as fast as we could spend it and drew material from all over the State in order to repair the damage that we had had at Houston. If you had had an individual company here and if it hadn't had sufficient cash and materials on hand to meet an emergency such as that, we would have had to have a great deal more working capital than where apportioned on the basis of a State proposition. By having these funds and these supplies available for the State as a whole, it makes the Working Capital less than it would be if we carried it or attempted to carry it or had it located in each particular exchange.

Cross-examination.

(Question by Mr. Howard:)

This Twenty-Seven Million plus, the book cost of the plant, September 30, 1919, that includes all of the physical property of the plant of the Southwestern in the State of Texas. That is the book cost. That includes pole lines and all. We apportion under this part a certain proportion of our toll property to the plant. The book cost of the Houston property is about fourteen per cent of the entire investment in Texas

"Q. Mr. Scott, why wouldn't it be a more direct way to get at your supplies and working capital, or at any rate at your working capital, you have to have a certain amount of supplies on hand for the use of this plant or where they can be used for this plant, and it takes a certain amount of supplies monthly to handle it and keep the plant operating property, doesn't it?"

"A. It takes a certain amount to meet the current needs."

There is not very much difference between working capital and material and supplies. If this was just one concern disassociated from all these other plants we would probably have a warehouse where we could store such reasonable supplies as we consider advisable to meet the current needs and such emergencies as might arrive. We do not use the working capital to meet the pay rolls, that comes out of current capital, but we use it for operating expenses and the usual additions.

"Q. Well now, on that particular part of the set-up on working capital, as distinguished from supplies, a great many of them would be carried separate."

"A. This could have been set up as a separate item. It would make no difference."

"Q. Now, taking just what is strictly known as working capital that can be pretty well determined, more directly determined by an examination of your operating expenses than it can in trying to apply it in a percentage way to your investment, can't it?"

"A. No, sir. In addition to meeting your current expenses, you would need to have cash on hand to take care of your current construction items, small current replacements; your expenses wouldn't

give you all the current working capital you need, you couldn't get it from your expense account."

The maintenance account does not cover any construction work. That would give you simply your maintenance and repair work. In addition to that, you have got—you will have supplies in your warehouse to meet that, and you will have to have cash on hand to pay people who furnish you supplies. Some commissions and some experts have used six weeks supplies and six weeks expense and two months pay-rolls. The average monthly expense at Houston are in the vicinity of \$80,000.00 a month at the present time. That is incidental expenses. Some commissions have used a per cent of the revenue as a basis, but that has not worked out right in all 2457 cases. It might work out right and it might work out wrong.

In a recent case in Missouri, I figured it out in this method, the Commission used an arbitrary per cent method and we came within a fraction of a per cent in the amount of over Seventeen Million Dollars that was involved. That was for the State as a whole.

None of our collections in Houston are in advance. We bill them in advance but billing them in advance and paying them in advance are of course different. Probably about 40 or 50% of the bills are paid by the 10th of the month, that is, exchange bills. That item of \$69,000.00 here shows the Houston direct item of Accounts Receivable from subscribers. That is no estimate of any kind. That shows that we had on an average nearly \$70,000.00 outstanding on the first of each month or at the end of each month. Now, you take the tolls; you see, we bill on the first of the month for the exchange items, but we are 40 days behind on the tolls, because the toll bill is 40 days behind at that time and by the time they pay the bills you are getting up close to 60 or 70 days behind, when they pay the toll collections.

In showing the Houston Exchange as 14% of the entire investment, that includes toll equipment. That figure Three Million, that includes all property that we carry as exchange property; it does not include any toll outside property. It does not include anything that is used exclusively for toll purposes with the exception of the Central Office Equipment.

"Q. Well, that is about all that is used exclusively for toll business, isn't it?"

"A. No, you have a total amount of outside business."

"Q. When you say "outside"——"

"A. (Interrupting.) Outside of the central office."

"Q. You don't mean outside of the central office?"

"A. No, I mean, outside of the central office, that is what we speak of, outside plant."

This Three Million Dollars includes about \$76,000.00 of toll property. That is the amount of a switch-board, toll switch-board.

I have worked out what percentage this working capital bears to the reproduction cost figure used by Mr. Hoag in his appraisal and

it is 4.2%. In this file of authorities which you have in this case, it shows that the average allowed by commissions and courts in telephone cases has been over 5% of the reproduction cost.

This working capital is not a part of the fixed Capital, it is in addition to fixed capital.

2459 "Q. In the Exhibit No. 10 which you put in this case, you have total cost of the property as shown by the books on September 3, 1919, as \$4,810,385.40. Then, in your Exhibit on Working Capital, you have book cost of the plant on September 30th, 1919, Houston, \$3,816,587.60. I just wanted you to explain the difference in those figures."

"A. Well, I have excluded in this Exhibit 41, the intangible capital item. I think that working capital is associated with physical property and I have eliminated the intangible entirely, both from the company figures and from the exchange figures. It wouldn't have made much difference, I could have put them in, but it wouldn't have been strictly correct and I omitted it, that figure Three Million, Eight Hundred Thousand, \$3,784,000.00, plus the furniture and fixtures, tools and store equipment, and the stable and garage equipment." I might mention that this method of allocating working capital to exchanges has been accepted by practically, by all the commissions that we have to deal with in the State of Missouri, Kansas, Arkansas, and Oklahoma. We have presented hundred- of cases to them in this same form and they have accepted them in every case.

2460 Mr. F. M. HOAG, a witness for the complainant, was sworn and testified as follows:

Direct examination.

NOTE.—The testimony of the witness, F. M. Hoag, as to his qualification, experience, etc., are set out herein on pages 915 to 921, inclusive.

I made an inventory and appraisal of the telephone property constituting the local telephone exchange in the City of Houston. That inventory was started as of September 11th, 1919. The actual field work was started on September 15th, and completed October 15th. The inventory was made as of October 1st, 1919. I have prepared a statement showing just what was done in making the inventory, and I have placed in evidence a copy of the statement as to how the inventory was made.

(Thereupon that paper was received in evidence and marked exhibit No. 12. That Plaintiff exhibit No. 12 is transmitted herewith in exhibit file.)

The inventorying, the counting of the various items of plant which go to make up the Houston Exchange property was a pretty sizable job. The field work was started on September 15th and was com-



pleted as of October 15th, 1919. Attached to this paper is a white paper map which shows the organization of the inventory forces. By referring to that map, you will notice that experienced telephone men and telephone engineers were employed in the making of 2461 the inventory. The work was divided between pole and wire, aerial cable, underground conduit, underground cable, central office equipment, private branch exchange equipment, sub-station equipment and installations, furniture and fixtures, stable and garage equipment, which includes the motor vehicles, land and buildings.

This chart shows that there were approximately 35 men employed, that is, 35 skilled telephone men employed in the making of the inventory, and most of those men had had previous experience on inventory and appraisal work. The years of service of each one of the men I have shown on the chart.

Just to indicate, on the pole and wire work I had C. W. Broyles, a Division Construction Foreman, in charge of that work, and he has had 15 years' service with the Telephone Company. Under him, on the pole and wire work, was R. C. Matthews, an Engineer, having had ten years' experience; C. H. Demitz, who was an Installation Foreman, having had twenty years' experience. All of these men were familiar with the property which they were inventorying, and they were selected on account of their familiarity with the particular type of property which they were inventorying.

On the aerial cable work, we had L. E. Cox, an engineer in Houston, who has had 13 years' experience, 13 years' service with the Telephone Company. E. W. Parham, a cable foreman, who has had 13 years' experience. On the underground cable and conduit work, we had Cable Foreman W. H. Ashley, who has worked for the Telephone

2462 Company 14 years, and all of that time on underground cable and conduit work. The same kind of men we used throughout in the making of the inventory. On the Central office equipment and inventory, which is a very difficult job to do, we had experienced Telephone equipment engineers.

Central office equipment is that portion of the exchange Plant in the central office buildings, such as the switch boards, the frames, the storage batteries, charging generators, and ringing machines. In other words I am speaking of Exchange buildings, such as the Preston Building here and the Hadley Exchange Building. The Central Office Building, yes, sir, and the Taylor Exchange Building. On the Private Branch Exchange equipment, which we inventoried on the same basis as we did our Central Office equipment, we also had experienced telephone engineers, that being a rather difficult portion of the plant to inventory. We could not have just picked up any and all kind of men to make this inventory because none other than experienced telephone men could have made it. We did use some men who were not familiar with the telephone business but they were used to open man-holes and pull tape lines and things of that sort,—they were used merely as laborers.

In explaining how I proceeded in making a count of this property I have some exhibit here that I would like to show in connection with that.

The Telephone Company maintains in Houston record maps on which are shown the various types of plant which go to make up the distributing system, that is, the poles, wires, cables, conduits, and other portions of the outside plant. Those maps were divided into sections, each section numbered, and a field man furnished 2463 with a particular section in this form. I have a complete copy of one of those maps,—I have them for each type of plant.

This one shows a portion of the underground cable system. That is a portion of the underground cable system in the Hadley central office district. This is section No. 717. That portion of that map would be cut off and placed on a board in like manner as this small section is here. Then attached to that is a Tally Sheet. This was placed in a field man's hands. He went out on the ground and actually counted or measured that part of the property. He entered under the various headings on these Tally Sheets what he found in the making of that count. If he found things that didn't show up on the record map, he entered them on his map and also on his Tally Sheets. In other words we cut this map to pieces and put the various portions in the hands of these men we were using to make the inventory, and they went out and then checked the property in accordance with this map. If we had something on this map which did not actually appear in the plant when they went out there,—if the men didn't find it, it was not entered. The first two or three days a field man was sent out to make his inventory, he was accompanied by experienced inventory engineers, who drilled him very carefully as to how to make his count, how to make his inventory. After that for a considerable length of time a 100% check was made of all his work by these same experienced telephone engineers. I mean that they checked all of his work for a certain period of time. When he had completed one of these sections and turned it in then they would go out there the next day or the day after and check it in detail to see that his inventory was accurate. When the field man's work 2464 Was reasonably accurate, which would be developed of course by that 100% check, then after that a 20% check was made on all of the inventory work done by each field man. These field men did not know what portion of their work was to be checked.

This part shows a portion of the aerial cable inventory, and that is a portion of the underground cable, that is underground conduit and this is pole and wire. Those boards were actually turned over to the field men in that form. They took these pieces of maps and made their check and as they came to each particular item of property they entered it on the map and also on the Tally Sheet,—on both of them, the map and the Tally Sheet. If their map showed that we had a certain piece of property in a certain portion of the town, when the man reached that portion of the town and they didn't find that piece of property it was not inventoried, it was not counted, but if they found a piece of property in a certain locality which did not appear on the map that was included in the inventory, it was counted. That method was followed throughout the inventorying or counting of the distributing system. All poles were inventoried. Ordinarily

the men making the pole and wire count were sufficiently skilled to tell what the size and specification of a pole was, that is, as to its height and its dimensions. However, each field man on the pole and wire count actually measured each tenth pole and if there was any doubt in his mind as to the size and height and dimensions of the pole, then he measured every pole. In general, the men were sufficiently familiar with that character of material so as to be able

to determine from sight what the respective sizes were, but in  
2465 a case of doubt they climbed every telephone pole, if they had any doubt about it at all, they climbed that pole to ascertain its real size, and you will notice on the back of that pole and wire board a specification showing the sizes of poles and their classification, which served as a guide to the men counting or inventorying the poles. The accessories, pole accessories, such as cross-arms, braces, pole steps and other similar items were actually counted. The aerial cables were measured by drawing a tape line along the ground beneath the cable. The men who did the aerial cable work, the aerial cable inventory work, were skilled and could invariably tell the size of the cable. However, if there was any doubt in their mind, they measured the cable, and also, of course, had the records to go by as a guide. The underground conduits and cables were measured by carrying tape lines along the ground immediately above the conduit lines, between manholes and from the man-holes to their terminus of the subsidiary conduits. That is, they carried a tape measure from one pole to the other in measuring aerial cables. We did not measure that at the top of the aerial cable but simply measured along the ground beneath the cables which did not give accurately the length of cable from one pole to another because an aerial cable when strung is strung with a certain sag. To explain: A telephone cable is lead-covered and it is quite heavy. It is impossible to string it absolutely tight. The usual pole span is about 110 feet. The strand supports the aerial cable after the cable is spliced, sags. The average sag in a 110 foot span for say, an average sized cable, is 8 to 10 inches.

Therefore in measuring the cable by laying the tape line  
2466 along the ground, the sag, the additional length of the cable as represented by the sag was not included in the measurements. That has been included in the inventory,—I have included it in contingencies and omissions. That is one of the items going to make up contingencies and omissions.

The measurements of the underground cable, were, of course, fairly accurate; the distance could be accurately measured between the man-holes, and then all the cables in the man-holes were actually measured, as was also the size of the man-holes. In addition, the type of construction of the man-holes was noted, as to whether it was concrete or brick. The size and kind of cover and frame used on the hole was noted and recorded. All subsidiary conduits, that is, the iron pipes which lead out from the man-holes to buildings or to poles were measured in like manner as to main line conduit and cables, as was also the cables in those subsidiary conduits.

An explanation of a man-hole. Man-holes are necessary in underground cable construction in that the length of cable which can be

placed is limited to about four or five hundred feet. Man-holes are also necessary to permit of distribution being made. It is a sort of a vault or cellar down underneath the ground, so that we can splice our cable together, where the main line cables are spliced together and where the branch cables which lead to the poles and to the building are spliced to the main line cables. The aerial wire was not measured. Instead, the spans of aerial wire were counted and then five hundred spans measured and the total amount of aerial wire in the plant apportioned on the basis of those five hundred spans  
2467 that were measured. I think that gave me an accurate measurement of the wire in the City because the length of the pole spans is fairly uniform. Drop wires were measured and averaged in like manner. That is, the drop wires were counted and some four hundred drops were measured to determine what the average length of all drop wires was.

The distributing system is that portion of the telephone plant connecting the telephone central offices with the subscribers' premises, that is, all of the lines, poles, cables, etc., which radiate out into the City for the purpose of serving the subscribers. It includes the underground cables, the aerial cables, the pole line, the block cables, the poles, the drop wires, the building cables, and everything to the subscribers' premises.

With reference to how we counted other portions of the plant: The central office equipment,—we maintain records of all our central office equipment in the State Engineer's Office. Those records were brought to Houston and checked carefully and an actual count and inventory made of the central office equipment in the Houston Central offices. All of the cable in the switch boards was carefully measured. When I tell you that there are over 306,000 feet of one type of switchboard cable in the switchboard in the City of Houston, you can appreciate the necessity for carefully measuring and carefully counting all of central office equipment. There were 3,000 sub-stations inspected. By sub-stations I mean telephones, including the wiring and the protector and the ground rod,—that is the lightning protector, which connects with each telephone.

2468 We have a portion of the City of Houston served direct by underground cables and telephones served direct by underground cables don't have protectors, ground rods, and lightning arrestors installed in that wiring is not exposed. We inspected carefully 3,000 of the total of the 27,000 sub-station installations in the City and applied, used that as representing the average of the remaining number of stations. We were very conservative in making those estimates. First, we eliminated all of the telephones which were served by direct underground feed and did not include with those telephones the ground rods and protectors, that is, the arresters.

When I referred a few minutes ago to drop wires I meant the wire which runs from the terminal box on the pole down to the house,—in order to reach the subscriber. The drop wire is the wire from the last pole to the subscribers' premises; the line wire is the wire strung along from pole to pole.

With reference to the land, I consulted the Company's records as

to the land which was owned in Houston and also consulted the deeds for such land. Then in addition, I actually measured each lot with a tape line on the ground and checked it against the deeds and against the records. I did not include in this inventory, only that land which is used or usable for telephone purposes. I did include that portion of the property which is used or usable but I have eliminated three parcels of land which are owned by the Telephone Company in Houston and the reason I excluded those was because they are not necessary and are not now being used and cannot be used in the future for telephone purposes, and therefore I did include those in my inventory or appraisal.

One of them is a lot and a building which is the old Houston Home Telephone Company automatic telephone office in Houston Heights. The second one is the old Taylor Exchange, Taylor Central office Building, and lot, on the corner of Center and Taylor streets, just off Washington Avenue. The third piece is a small store-room yard or lot owned by the Houston Home Telephone Company on Heiner Street.

I have not included in my inventory any of the toll property. We made a careful inventory of all of the toll property within the Houston exchange area and excluded that from the inventory. We excluded all of the toll central office equipment, the toll test boards, the toll cables, underground and aerial, all of the toll poles and all of the toll work, together with the cross arms and accessories.

We have no toll cable on local exchange poles. We have, however, toll cable in the local exchange conduit lines and that has been cared for by allowing, by crediting the Houston Exchange with the rental value of the duct space occupied by those toll underground cables. That is, I have credited to this local exchange property a rental for that portion of the local exchange property which is being used by the toll property, and we have likewise debited the Houston local exchange with the contact rental charge for certain local wires which are carried on the toll poles. I did not just make up that rental figure myself, that is our standard rental charge made to all wire

using companies, like the telegraph companies and oil companies. It is what we call our schedule A, it is our regular charge. In other words, whenever we have toll lines running on local exchange tolls, we credit the local exchange with the same rental which is paid to us by the Western Union Telegraph Company or the Postal Telegraph Company or any other wire Company which is using our poles,—for an amount similar to what we pay to those companies whenever we put our lines on their poles.

With reference to our record inventory here, we made a check to determine whether the inventory was accurate and correct, we made a 100% check, that I spoke of previously and the 20% check was carried right straight through.

There was no chance for duplication of our properties. If I sent one man out in a certain portion of southeast Houston to do some work and I had another man out in that same territory doing some work, there was no chance of their going over each other's territory and counting the same property twice. You will notice that those

maps that I showed you mounted on the boards have been cut with a pair of scissors and the man only covered that portion of the property which was shown on those maps. He didn't get off that map, and the map being cut that way, there was no chance for duplications.

Other than toll property there is no other property in the City of Houston which is used in the operation of the local exchange which has been excluded from my inventory. I have not included all parts of our telephone instruments in my inventory,—I have excluded the transmitters and the receivers and the induction coils on telephones. I have also excluded the station installations, 2471 that is, the wiring connecting the hotel private branch exchange stations with our underground cables. There are some 2,600 of those, and that wiring is owned by the hotels and therefore it was excluded from the inventory. The reason I have excluded from my inventory the transmitters, receivers and induction coils is because they are not the property of the Southwestern Telegraph and Telephone Company but they are owned by the American Telephone and Telegraph Company, and we are using them under a licensee arrangement. The American Telephone and Telegraph Company owns the patent on those things, and we have a contract with the American Telephone & Telegraph Company,—that is the Southwestern Telegraph & Telephone Company has this contract known as the "Four and One Half Per cent License Contract" by virtue of which they have the right to use these articles, and not being the owner of these particular items of property, I have not included those in my inventory but they have been excluded.

Questions by Mr. J. D. Frank: You have a copy of the inventory?

Mr. Howard: Yes.

Mr. J. D. Frank: We desire to offer in evidence this inventory and have it marked as Plaintiff's Exhibit No. 13.

(The document was thereupon introduced in evidence and marked Plaintiff's Exhibit No. 13, and said Plaintiff's Exhibit No. 13 is transmitted herewith in exhibit file.)

2472 Mr. Howard: Do you introduce them as two separate exhibits, this explanatory—

Mr. Frank: That explanatory exhibit is No. 12 and this other exhibit is No. 13.

The Master: That was mentioned when I first heard this proposition discussed.

Mr. Howard: I do not know that it was ever undertaken to agree, except at the time of the merger ordinance there came up a discussion and they couldn't get together. The Master asked in regard to some agreed valuation and I said I think the only time whenever an attempt was made to get together on a valuation was when that merger ordinance came up.

Mr. J. D. Frank: I don't know, Mr. Howard: I couldn't say.



I think I can clear up what was in your mind. I think the City has had a check made of this inventory and someone might have made the statement that there might be no contest as to the inventory or as to the quantity of the property, but so far as the value—

Mr. Howard: The City hasn't yet checked it.

Mr. J. D. Frank: The City hasn't yet checked it?

Mr. Howard: No, we haven't. We are rather assuming that you have made a correct inventory. We are not disposed to question your inventory very much.

2473 In my inventory I included all of the local property owned by the Telephone Company. We excluded the transmitters and receivers and induction coils on the telephones which were owned by the American Telephone & Telegraph Company. We also excluded all of the dead drop wires, that is, drop wires and the wiring on subscribers' premises which was not in use. Our system of accounting is such that when a telephone is disconnected, the drop wires and the wiring on the premises is charged off the books. Therefore, those were not inventoried and not counted. That is, if we had wires on a house that did not have a telephone I excluded that from my inventory. We also excluded the land and the buildings which the Company owns in Houston which are not being used at present or which are not usable for telephone purposes. We further excluded a considerable amount of wiring which we have called "station installations" which are owned by the hotels in Houston for connecting the telephones in the hotel rooms to the private branch exchange switch boards. The Southwestern Telegraph & Telephone Company does not own that wire. There are 2,200 and some odd such installations.

In inventorying a piece of property of this magnitude it is impossible to include everything in your inventory, there is necessarily some omissions. I spoke yesterday of not being able to include in the aerial cable lengths, the sag of the cable in the spans between poles. Thinking about that a little bit, there are approximately 10,000 spans of aerial cable in the City of Houston, and there is at least 6 to 12 inches of cable in each span, due to the sag,

2474 which was not measured. So there is somewhere between eight and ten thousand feet of cable which could not and was not inventoried.

In looking around over the plant since I have completed my inventory, I have come across things that have been omitted from my inventory. We found in checking up portions of the field count, we found poles, terminals, lengths of cable and other things that were omitted. I will treat those matters when I come to the subject of omission and contingencies.

Mr. J. D. Frank: Mr. Howard, have you a copy of this Chart?

Mr. Howard: This map?

Mr. J. D. Frank: Yes, sir.

I have a map showing the organization of the Southwestern Telegraph and Telephone Company in the State of Texas. It shows the



territory covered by the Southwestern Telegraph & Telephone Company in this State. This Company operates in the State of Texas. The State is divided into four divisions.

Mr. J. D. Frank: Now, wait just a minute, Mr. Hoag. We desire to offer this map in evidence as Plaintiff's Exhibit No. 14.

(The map was thereupon received in evidence and marked Plaintiff's Exhibit No. 14, and said Plaintiff's Exhibit No. 14 is transmitted herewith in exhibit file.)

2475 The State is divided into four divisions, known as the Northeast Texas Division, the Northwest Texas Division, the Southwest Texas Division and the Southeast Texas Division. The Headquarters for the Northeast Division are at Dallas, for the Northwest Division at Fort Worth, for the Southwest Division at San Antonio and for the Southeast Division at Houston. A complete division organization is maintained at each of the headquarters. The divisions are in turn divided into Districts, the Southeast Texas Division being divided into the Galveston, Beaumont and Houston Suburban Districts. The headquarters for the District men who handle the Galveston and Houston Suburban districts is Houston and the headquarters for the District men who handle the Beaumont District is Beaumont. This map shows the District lines in the Southeast Texas Division, but not in the other divisions.

I have prepared a chart showing the division organization of the Company, this map consists of three pages, showing the Traffic Department Organization, the Plant Department Organization, and the Commercial Department Organization.

Mr. J. D. Frank: We desire to offer that in evidence as Plaintiff's Exhibit No. 15.

(The chart referred to was thereupon received in evidence and marked Plaintiff's Exhibit No. 15, and said Plaintiff's Exhibit No. 15 is transmitted herewith in Exhibit file.)

The organization is what is known as the functional organization, that is, the Traffic Department is charged with the operation of the plant, the rendering of service; this first sheet shows the  
2476 Traffic Organization in the Southwest Division. That pertains to your operators and the actual handling of telephone calls, the actual furnishing of service to the subscribers. You will notice that there are 1002 employees in the Southeast Texas Division. The Plant Department is charged with the construction of the plant and the maintenance of the property, including plants, buildings, toll lines, the distributing system, etc.

The next one is the Commercial Department who are charged with the responsibility of collecting the money, rendering the bills, doing the book-keeping, etc. We have certain portions of the property here in Houston which is used by this Division organization and that has been included in the inventory, but only a portion of it has been charged against the Houston Exchange. I have made

due allowance in my appraisal for that portion of the property which is used by the Division Organization.

Now, turning to my inventory. The three main divisions of the Telephone property in the City of Houston are, first, the land and buildings, second, the distributing system, including the central office equipment and the station equipment; and the third is the miscellaneous items, such as furniture and fixtures, tools and store equipment and stable and garage equipment. I have subdivided those three main divisions into eight sections. Number one is land; that is the first section of the inventory. Number two is buildings. Number three is the distributing system. Section four is the central office equipment. Section five is the station equipment. Section six is furniture and fixtures. Section seven, tools and store  
2477 equipment. And eight, is stable and garage equipment.

In order that you may better understand the property which enters into this inventory, I have compiled a list of photographs illustrating the various pieces of property, I have a bound volume of that.

Mr. J. D. Frank: I desire to offer that in evidence as Plaintiff's Exhibit No. 16.

(The volume was thereupon received in evidence and marked Plaintiff's Exhibit No. 16, and said Plaintiff's Exhibit No. 16 is transmitted herewith in exhibit file.)

I have made an appraisal of this Houston Plant and in making that appraisal I used the inventory as the basis of the appraisal insofar as the quantities of plant are concerned. I took the various quantities and then worked out what each particular item of the property would cost if I were reproducing the exchange.

I have prepared an exhibit showing my unit costs and materials prices.

Mr. Frank: I believe you have a copy of that haven't you, Mr. Howard?

Mr. Howard: Yes, sir.

Mr. Frank: We desire to offer that in evidence as Plaintiff's Exhibit No. 17.

2478 (Thereupon said document was received in evidence and marked Plaintiff's Exhibit No. 17, and said Plaintiff's Exhibit No. 17 is transmitted herewith in Exhibit file.)

The materials prices cover the prices of the materials as used in the appraisal. The unit costs cover labor cost and also the incidental cost. In appraising this property I have used material prices which are an average of 1918-19 prices, which prices are lower than present day prices by from eight to twelve per cent. I made my appraisal as of October 1st, 1919, but did not use the prices which were prevalent at that time, but I used the average 1918-1919 prices. Those prices are from eight to twelve per cent lower than the prices which were prevalent on October 1st 1919, and even lower than that on certain classes of plant. For example, our central office equipment

material has increased in price since October 1, 1919, approximately fifteen per cent. That increase in price went into effect as of November 1, 1919 and I have not used prices which were prevailing on October 1st, 1919 and since that time prices have still further increased. As I testified before, the prices which I used were eight to twelve per cent lower than the prices which were in effect as of October 1st, 1919. The prices on my central office equipment are approximately 27% lower than the present day prices. That is on account of this increase on November 1st, 1919. In making the appraisal of this property, estimating the reproduction cost new of the property, I have

2479 been trying to arrive at the present value of the property, and I wanted to be conservative as to the cost and prices which I applied in the appraisal. In addition, I have felt and still feel that there will be a general stabilizing in so far as business generally is concerned, which will make for increased *the* efficiency, that is, a greater production, and which should result in some decrease in the cost of work, and in the prices of material. I do not expect any material reductions to be made, either in cost of work or in prices of materials, but I do expect that this general stabilizing will produce some slight reductions, and I have considered those things in the building up of the cost and prices, and in making up the appraisal.

I am proceeding on the theory that it would require a construction period of three years in which to reproduce this property. I have selected that number of years because, first, that is the economical period of construction, in that to reproduce this property in a less period of time would mean the working of our force possibly three eight hour shifts; that is, either sixteen or twenty-four hours a day. That, of course, would not be economical. Again, even by working a great deal of over-time I do not believe that would be possible to reproduce this property in less than three years. I mean to testify that in my opinion it would be impossible physically to reproduce it in a less period of time.

With reference to whether this property would be reproduced piece-meal or whether the various pieces of property would be under construction at the same time,—about what would have to be done to reproduce the property is the following:

2480 First, the land for the central office building would have to be purchased. Before that land would be purchased careful studies would have to be made to determine the telephonic development in the town. That is, *the* determine where the subscribers which you would connect would be located. After that was determined, then you would also have to study your towns to determine where the future growth would come. Those studies are necessary and are made in the daily exchanges throughout the State. They are necessary to permit of our intelligently engineering and constructing our telephone properties. After those studies were completed then an effort would be made to purchase land as near as possible to the wire center. By getting at the wire center we can effect considerable economies in constructing our plants. After the land had been purchased then architects would have to be employed

to design the buildings, to plan the buildings. Those architects would have to know, of course, the dimensions of the land, and would also have to consult with our engineers, in that they would also have to know, in addition to the dimensions of the land, the equipment which was to be installed in the buildings. After the architects had completed their plans then we would call upon contractors to bid on the construction of the buildings. The contract for the construction would be let and the buildings would have to be constructed, within two years from the time we started making our preliminary studies and investigations in the town. Those buildings would have to be completed at that time to permit us to install our switchboards. At

the same time that we placed our contracts for our buildings  
2481 we would also place orders for our central office equipment, in that it would take about a year to eighteen months to manufacture and assemble the equipment. After the buildings were completed, then the equipment could be installed in those buildings in about a year. It could not possibly be installed in any less time. While the buildings are being constructed and the central office equipment was being manufactured and installed in the building the underground conduits, the pole lines, the cable plant, that is, the distributing system, would also be constructed. It would be necessary to build the underground conduit plant as soon as possible, in that the conduit has to be laid before the underground cable can be ordered. The underground cable is ordered by section lengths; that is, the lengths between man-holes; and the conduit necessarily has to be constructed before the lengths of cable can be ordered from the manufacturer. Simultaneously, of course, with the construction of the conduit, the installation of the underground cables would be carried on, with the pole line construction and the aerial cable, and other parts of the construction of the distributing system. I would say that this three year period of time was most conservative. It is my best judgment that there is nobody other than the Bell Telephone Company that could reproduce this property in three years. That is based on some twenty years' experience and my observation of what other telephone companies do, and my knowledge of what the Bell Telephone Company can do. That is because we already have an organization in existence and better qualified to do that work than outside firms. We have a highly trained and

2482 efficient organization. We know how to do work. We have arrangements with the manufacturers of telephone equipment, apparatus and material, which would make it possible for us to get out material and equipment in a very short space of time, and also to construct the property quickly.

As I stated it would take a year or eighteen months to manufacture that central office equipment because the manufacturers do not carry that equipment in stock. You must remember that this central office equipment in the Houston Exchange represents over \$1,000,000.00, and no manufacturer would carry an investment of that size. All of that equipment is manufactured according to specifications. All equipment and practically all material which

go into the construction of the plant are manufactured under specifications, telephone company specifications.

I have considered what material would cost in the future in order to do this work. I have given that consideration, but the prices of material which I have used are average 1918-1919 prices, and not prices which may or may not prevail in the future. In my judgment, as I explained before, I am expecting some slight reductions, and therefore, I feel that the 1918-1919 prices should apply. My judgment to date does not appear to be good, however, in that there have been material increases in the prices since October 1st, that is, since I have made my appraisal there have been actual increases in the costs of materials.

483 As I testified this morning, my appraisal was made as of date, October 1st, 1919 and I also testified that the prices of materials which I used in my appraisal were from 8 to 10% lower than the prices which were prevailing on October 1st, 1919 and that due to a further increase in the price of central office equipment on November 1st, 1919, the prices which I have used in my appraisal were about 27% lower than present day prices,—that is, in so far as central office equipment material is concerned. We have over \$1,000,000.00 worth of central office equipment in Houston. The central office equipment constitutes about 24%, over 24% of the total cost of the telephone property in Houston, and in arriving at what it would cost to reproduce that particular part of the plant, I have used prices which are 27% lower than present day prices.

The labor costs that have been used in the appraisal are 8 to 10 per cent below the labor cost as of October 1st, 1919. Since October 1st, 1919, there has been increases made in rates of pay, so that the labor cost as used in the appraisals are 18 to 20% below present day labor cost. I am speaking of wages of employees here in Houston, that is, lime men, cable splicers, installers, central office men and other classes of employees who have to do with the work of reproducing the property. I did not know on October 1st, 1919 that the cost of the materials concerning which I have testified would increase and neither did I know on October 1st, 1919 that the wages of the employees whom I have mentioned would be increased.

484 I have carefully analyzed the cost of work as done by the telephone company; I have analyzed over two and a half million dollars' worth of work done in Houston in the last five years,—that is, telephone work, that is work done in the Houston Exchange. In addition I have analyzed something over five million dollars' worth of work done in other parts of Texas. I have also read the newspapers, read many technical periodicals, and in addition have consulted with people who have to do with the construction, operation and maintenance of properties similar to the telephone property. I consulted with Mr. Neiswanger, the Chief Engineer of the Texas Power and Light Company, operating some 78 electric light properties in the State, and in addition operating several hundred miles of high-tension lines. Mr. Neiswanger has charge of all the engineering for that company and in addition has charge of the con-

struction of the plants. The material used in the outside portion of the Texas Power and Light Company's plant is similar to that used by the Telephone Companies, that is, they use large quantities of poles, cross-arms, hardware, suspension strand, and similar material to that used by the telephone company. Their central station plant, is, of course, different from the telephone company's property. Mr. Neiswanger has had occasion to carefully analyze costs and prices and his best judgment was that in so far as the distributing system portion of the electric light company's plants were concerned, that prices and costs had increased between 50 and 60 per cent as compared to the prices and costs which prevailed in 1915. In so far as the

2485 Central Station portion of the electric light plant is concerned, he had found that the prices and costs had increased in excess of 100%, the reason for the difference being that the central station portion of the plant, that is, the dynamos, generators and other equipment is manufactured equipment. That is true also of the telephone company's plants. The telephone property represents in so far as costs are concerned, or splits up, in so far as the costs are concerned, into about 70% labor and 30% raw material. In other words, a switch board installed in a central office in Houston represents about a 70% labor cost and about a 30% raw material cost. The labor costs that I have used are about 8 to 10% lower than the labor costs which were prevailing on October 1st, 1919. The study which I made first here was with reference to labor and material,—it covered both of those items. The reason I used labor costs lower than the labor cost at the present time was because I wanted to be conservative in my appraisal. I have previously explained my reason for using the prices which I did use on material and said that I expected a general stabilizing of business, which would result in increased production, that is, greater efficiency, which in turn would tend to reduce the prices of material. The same thing, I felt, applied to our labor costs, in that during the war we lost large numbers of people and the efficiency of the force is not so great as it will be in the future, which is due to the fact that the present force that we have are not as experienced as the men that we formerly had, and we have had to train these men as we go along to take the place of the experienced men who left and went to war.

2486 I have talked to various contractors about this matter; I have talked to people connected with the Telegraph Companies and the consensus of opinion of all of those men was that the costs were from 50 to 75% greater and the prices were from 50 to 75% greater than those prevailing in 1915. Most of those men felt about as I did, that as business stabilized we would get greater production, greater efficiency out of the men, and that that would result in some slight reductions as to costs. Neither they, nor we, expect any reductions in the rates of pay. I mean by that, first, I have been connected with the telephone company over 20 years and during all of that time there has never been any reduction made in any rate of pay which was once established. In addition to that, there has been an increase in the rate of pay from year to

year. By "rates of pay" I mean wages and salaries. I have also read various technical magazines and periodicals which treat of this subject and which give the opinion of the leading economists and leading engineers of the country and the consensus of opinion is that we will probably never go back to pre-war prices and that the present prices will prevail for a period of 15 to 20 years. When I have testified that in my opinion there will be some stabilization of the prices of material and the cost of labor, I was discussing the United States as a whole, and that is my opinion with reference to these matters as to the whole United States, that is what I had in mind. However, I do not expect that stabilization to take place as quickly in Texas as I do throughout the United States, and the reason for that is the considerable oil activities in the mid-continent field and the northwestern portion of the State of Texas is bringing into Texas something in excess of a billion dollars 2487 per year. That amount of money brought into the State is bound to affect prices and costs, is bound to keep up the present high prices and costs. That applies especially to labor costs and I would say that the effect of that would be felt in the City of Houston. It must be felt in the City of Houston. The Texas Company, whose headquarters are located in Houston, are very active in the mid-continent field and we feel it in that whenever the Texas Company wants a good telephone or telegraph man, they take him away from us. We educate him and then they hire him and that forces us to constantly add to the wages of our employees.

At the time I made my appraisal of this property on October 1st, 1919, I considered that the prices I used were most conservative and that was before I knew that the cost of certain materials would increase and before I knew that it would be necessary to make a further increase in the wages of certain employees of the Company. It was my best judgment and the best judgment of the people I discussed that matter with was that there would be no further material increases in prices and costs. As I thought then and as I say now, the appraisal which I made on that date was very conservative and if I had known of these increases which were to be put into effect I would not have used the same prices which I have used with reference to material and labor costs, I would have used high prices and higher costs. I think that I have been more than conserva- 2488 tive in my judgment as to what prices should be used in determining my unit costs of material, labor etc.

There is another item that enters into my unit costs in addition to the price of material and the cost of labor, and that is the incidental expense, that is, the teaming and hauling charges. That is included in my appraisal. By teaming and hauling expense, I mean the moving of material on the job, the transportation of men and teaming expense and motor-vehicle expense incident to the placing of aerial and underground cables, the motor-driven pumps which we use in pumping out manholes and other similar things. Our system of accounting as to the cost of work is such that it is possible to determine what the incidental expense amounts to in like manner as it is possible to determine what labor costs are. That system of



accounting is prescribed by the Interstate Commerce Commission, and that is what I have followed. In connection with the analysis made of the several million dollars' worth of work to determine labor costs, an analysis was also made of the incidental expense which was incurred. In other words, our records are such that we can tell just exactly how much incidental expense we have incurred in building any particular piece of work.

Mr. J. D. Frank: Your Honor, we will now take up the specific items in this exhibit entitled "Unit Costs and Material Prices." This is Exhibit No. 17, and I would suggest that when we are discussing any particular item here, if there is any part of this matter which you don't understand, or if there is any part which Counsel for the City do not understand, that they just ask questions about it then, as that will probably save considerable repetition when we come to cross-examination. If there is anything that you do not understand, why just feel at liberty to ask any questions that you desire to ask.

Mr. Howard: All right, Mr. Frank.

The first few pages of this Exhibit are taken up with the index, but they are not numbered. The first heading is "Item," meaning the particular kind of material. The second heading "Spec. No. #," means specification number; that is, the specification number under which the material is manufactured. The third heading is "Unit." That indicates whether it is one pound or one hundred pounds, or one foot or one hundred feet, or a thousand feet of whatever it is. The fourth heading is the "Price." The first item is "Anchor, Everstick," is Anchor Everstick 8 inch." It is called a No. 8. It is an 8 inch Everstick Anchor. I have figured out the price on one particular anchor, the price of the material on one particular anchor of that type. On this sheet, the price on this material, price list sheet, the price as shown here is \$1.03, that is the price of one single 8 inch Everstick Anchor. I got that price; In determining material prices, we analyze the prices of material for Houston covering some million,—over one million dollars' worth of material. The prices were taken from the bills. On page 33 is shown in detail the unit cost of the 8 inch everstick anchor in place. On page 33 that taken in labor cost, incidentals, material cost, etc. On page 2 of my exhibit the second paragraph covers 22 gauge type "TA" Lead covered, that is, lead antimony sheath, paper indulated, cable. The first item is "15 pair cable." It is manufactured under specification No. 3356, and the price of \$120.50 is the price per thousand feet, that is, the price is 12 cents per foot. I got that figure of \$120.50 from the bills for cable which have been purchased in Houston,—that is what we have actually been paying for cable here in Houston. You understand that is the average 1918-1919 cable prices and not the present day price on that cable.

On page four of my Exhibit the first item there is "Conduit, Fibre," three inch. The price is \$6.92 per 100 feet, or 6 cents per foot, that is, upper duct foot. The 10 pin Fir Cross-Arm Manufactured under specification No. 3838, the price is \$79.13 per 100,

or 79 cents each. Those are not the present day prices. I might add that all those prices are not the prices of that material in Houston. Certain of this material is priced f. o. b. Houston; certain of it is priced at the factory or at the woods. Those things are plainly shown in the detail of the unit cost.

Page six of my exhibit deals with the prices of poles. The 14th item on that sheet is a 30-foot, Class "B" Northern White Cedar Pole. The pole is covered by specification No. 3254. The price is that pole is \$6.01 each at Escanaba, Mich. I take that price at Escanaba, Michigan because that is the point at which White Cedar

Poles, Northern White Cedar Poles are concentrated, and that 2491 is the price at which they are billed. In addition to that

price, the telephone company has to pay the freight charges. That is where we get practically all of our poles, and there is no other place where we could get them. There has been a steady increase in the price of poles for the last 15 or 20 years and my explanation of that is that the supply of poles is decreasing and the consumption or demand has been steadily increasing which tends to make the prices higher. I am not sure whether there has been any reduction in the prices of poles since the signing of the Armistice but I don't think there has been. The prices of poles at the present time are materially higher than were the prices of 1915, the price has increased between 30 and 40% in that period.

On the bottom of page 6 is the item of Western White Cedar Poles. The first pole is a 25 foot 6 inch, and the specification is the Northwestern Cedarmen's association; that is abbreviated here as NWCA. The price of that pole \$3.81 as given is the price of that pole f. o. b. Houston. These poles we acquired in connection with the Houston Home Telephone Company's property.

The next item, Page 7, is creosoted pine poles. The first pole is a 25 foot c, specification 3885, and the price of the pole \$4.53 is the price f. o. b. Beaumont. The reason I figure out the price f. o. b. Beaumont is because that is the way in which those poles are billed to us. We, in addition to the price of the pole, have to pay the freight. There is a creosoting plant at Beaumont and the 2492 poles are purchased from the International Creosoting Company who have a large plant at Beaumont.

We have one item on this same page that is rather an odd item. It is railroad rails. We use railroad rails, we purchase them locally, second-hand railroad steel, and use them in the construction of man-holes, as reinforcing for the roof of man-holes. The price given of \$2.50 is the price per hundred weight and is the price which we have paid for the rails locally. We purchase those from the railroad here in Houston, from either the street railway or the steam railroads, anybody that we can get the second hand rails from.

On the next page, page 8, we have lead sleeves, all sizes. The price per hundred weight is \$11.11. The sleeves are sold by the pound. We purchase them by the pound. They are not sold by size. In building up the unit costs, you will see that the number of pounds of lead sleeves is shown.

We talked yesterday of the large underground cable boxes. On page nine we have an item of a 404 paid F. X. box completed without fuses, \$277.60; that is the box itself. I got that price from the bills covering purchases of 404 pair F. X. Cable boxes and that is the average price that we pay for that particular character of property during the years 1918 and 1919 and that is less than present day prices.

On page ten we have the wire, 17 Copper Clad paired insulated wire, an example of which we have on one of these boards. 2493 It is a steel core wire covered with copper. That is manufactured under specification No. 382 and costs \$15.28 per thousand feet. In the spring following the signing of the armistice there was a considerable drop in copper prices. That is due, I understand, to the considerable quantities of copper which the Allied Governments had accumulated in connection with their prosecution of the war and that reduction in price prevailed from early in the spring until about August at which time the price started going up. It is to-day up to around 23 cents. That may not be exact but it is approximately correct. Copper is a commodity, the price of which has always fluctuated to a great extent. Years ago we have paid as high as 27 cents for copper; ten or twelve years ago we paid as much as 27 cents for copper. If I remember correctly, we paid that for copper in 1908 or 1909. There was always a considerable fluctuation in the price of copper. During the recent war the government fixed the price of copper. The price of copper had gone up to something over 35 cents previous to the time the government established a price of 23½ cents, which was the price of copper at the time of the signing of the Armistice, and immediately after the signing of the armistice, or shortly thereafter, the price of copper went down and that is explained on the theory that a large supply of copper was released, or that is my understanding of it. The prices have gone back up now to about where they were at the time the Armistice was signed.

On page 11 of my Exhibit No. 2 there is one item of Booths, 2494 Brownell Booths, that is a No. 10 Booth and the price is \$31.00 each. Another item is silk and cotton switchboard cable, No. 22 gauge, 100 pair and the price is 80 cents per foot; another item is silk and cotton lead covered cable, 100 pair and the price is 53.7 cents per foot. That all comes under the heading of station equipment.

On page 12 we have connecting blocks, Type 6A, the price of which is 45 cents each. We have a similar type connecting up in that little wooden box on that board. We have condensers, Type 21E that costs 75 cents each.

On page 15 of my Exhibit an explanation is made as to the freight rates which have been applied. The first item is poles; Northern White Cedar Poles are shipped from the woods, the originating common point of shipment being Escanada, Michigan. They are shipped to Houston in carload lots and the freight rate per hundred weight is 51.6 cents. The next statement below that first sentence is,—the actual freight not used as was shown as total freight per

car and not per pole, that is, the freight rates, the amount of money which appeared on the bills as being the freight rates was for the complete carload shipment of the poles and the freight per pole was determined by getting the weight of the poles and dividing the total amount of freight. Also was determined by getting quotations as to freight rates from freight agents, and in that connection in my effort to determine what the freight rate would be from the woods to Houston, Texas, I interviewed the General Freight Agent of the T. & P. railroad in Dallas and a freight clerk in another freight 2495 office in Dallas. They have the freight rates of course for all of the State of Texas. Those quotations were simply used as a check to be sure that the freight rates which we had applied were correct. The freight rate on creosoted poles from Beaumont is 10.4 cents per pole. I got that information from the bills, I took actual shipments of poles and figured out how much that was, and those were the freight rates which are in effect at the present time. There has been no reduction in freight rates and so far as I know there have been no increases.

Mr. Howard: There has not been any increase, has there, since October 1st 1919?

Mr. J. D. Frank: No, I don't think there has.

The next item, cabling, in getting the freight rate on that particular piece of property, I took the actual freight rate shown on the bills, except for Types AA and pure lead sheath cable, for the Types AA and the pure lead sheath cable shipped from Hawthorne, Illinois, in carload lots at 61 cents, 61.3 cents. I might say that such pure lead sheath cable as we have in Houston was acquired when we took over the property of the Houston Home Telephone Company, and we secured such prices as we could on pure lead sheath cable and applied those prices. We haven't purchased any pure lead sheath cable for many years and the prices used is a price which would apply 2496 seven, eight or ten years ago. I don't think there is any pure lead sheath being sold at the present time. The price of the cable is the price of the cable at the factory, at Hawthorne, Illinois, in addition to which the Telephone Company has to pay freight from Hawthorne, Illinois, to Houston.

The next item is Vitrified Clay conduit. The actual freight was shown on the Western Electric Company's bills, otherwise conduit shipped from factory at Brazil, Indiana, to Houston in carload lots, at 43.9 cents per hundred weight. Most of the Vitrified clay conduit which we purchase is manufactured at Brazil, Indiana. Then in addition to the price of that material, we have to pay the freight rates from Brazil, Indiana, to Houston, Texas. Other types of conduit which we have are sewer tile, iron pipe, which in general are purchased locally and I haven't figured out any freight rates for that.

The next item is Creosoted cross-arms which are shipped from Texarkana, Texas to Houston in carload lots at 20 cents per hundred, 20.7 cents. The International Creosote Company has a creosoting plant at Texarkana for creosoting these cross-arms. We purchase

these particular items of property at Texarkana and then pay the freight on them to Houston, Texas.

On miscellaneous material I have not figured out the price of freight on those. On such items as wire strand, hardware, etc., the bills for the material show the prices f. o. b. Houston.

2497 Page 16 of my Exhibit is really specifications covering Northern White Cedar Poles. They show the minimum dimensions of Northern White Cedar Poles. In purchasing these poles the producers are furnished with the specifications and the poles have to conform to the specification requirements. The twenty-five foot Class C pole has to have a top circumference in inches of  $18\frac{3}{4}$  inches and has to have a circumference 6 feet from the butt of 30 inches. A 40 foot Class C pole has to have a top circumference of  $18\frac{3}{4}$  inches and a circumference six feet from the butt of 40 inches.

On page 17 of my Exhibit is shown the unit cost of Northern White Cedar Poles by sizes and class. The first item here is a 15 foot C Pole. That follows after "Size and Class." Next comes the weight in pounds, the 15 foot C Pole weighs 100 pounds; the price of the pole is \$1.03. That is shown in my material prices over in the first part of my exhibit. The freight on the poles is 52 cents, which, in accordance with our previous set-up making the total cost of the pole, that is, the material only, f. o. b. Houston, \$1.64, after including supply expense. The supply expense is the expense incident to the making of the requisitions for material. It is the expense of handling of material, the receiving it, the distributing it, the unloading of it from the cars, the handling of it in the storehouses and in the yards, the rent, light and heat at the storehouses. It also covers the shrinkage, wastage, breakage and loss of material while in the storehouses or in the yard. We have a storage

2498 yard in Houston and have men to look after the storage yard, have to have men to unload the material when it is shipped in and to care for it, to disburse it that is, to load it on the teams and send it out to the work. That comes in under supply expense,—that is a part of the supply expense. All of the property does not pass through the warehouse or storehouse. The Central Office equipment,—there is no supply expense charged on the Central Office equipment. In making my appraisal of the Central Office equipment I have not included anything for supply expense. There is no supply expense charged to the Central Office equipment. That for the reason that the central office equipment is contracted for with the manufacturers, they to manufacture it and to install it and the Telephone Company does not have to handle that material. Sometimes the vitrified clay conduit pass through the warehouse and sometimes it goes direct to the job. A certain amount of the conduit goes into the warehouse and storeyard, but the greater portion of it goes direct to the job. However, there is supply expense in connection with that, it has to be ordered, it has to be accounted for and has to be handled. There was introduced in evidence yesterday or the day before, the uniform system of accounts for Telephone companies as prescribed by the Interstate Commerce Commission.

The Interstate Commerce Commission gives a definition of supply expense. That definition is in section 704, on page 78, "Supply Expense." Charge to this account or to appropriate sub-accounts all expenses (except insurance and taxes) incurred directly in connection with the purchase, storage, handling, and distribution of materials and supplies and stationery. It includes (1) the pay and expenses of purchasing agents, managers of stores, clerks, and laborers; (2) rents paid for stores; (3) cost of lighting and heating; (4) undistributed transportation charges; (5) discounts recovered through prompt payment of bills for materials and supplies when such discounts cannot be assigned to the particular bills; (6) overages or shortages in the materials and supplies account disclosed by inventories which cannot be assigned to specific accounts; and (7) the estimated depreciation on materials and supplies due to breakage, leakage, shortage and wear and tear."

To go into this a little more fully, the first item set out by the Interstate Commerce Commission here is "the pay and expenses of purchasing agents, managers of stores, clerks, and laborers;" that is applicable to the Houston situation. In considering what it would mean to reproduce this property, I have considered what it would actually cost in the way of supply expenses to handle the very considerable amount of material which would be used. There would be over two million dollars' worth of material, considerably over two million dollars' worth of material on which a supply expense would be incurred. I have estimated that it would require the services of about 15 people to handle those supplies, and that in addition we would have to rent yard space and either construct temporary store houses or rent store houses. In addition to that, the reason I have used the 6% as our supply expense is that for several years the average supply expense incurred by the Telephone Company has run at approximately 6%. That is what it has actually been costing us in Houston and in the State of Texas to handle our supplies. I have made a careful study from the records of the Company arriving at that expense. The supply expense fluctuates from month to month and from year to year. It is sometimes in excess of seven or eight per cent and has been as low as about five per cent, but the average supply expense has been 6%. At the time we took an inventory of the material in the yard we found that we were short whatever amount of vitrified clay conduit that had been broken and we would have to charge off the supply expense the value of that breakage, the value of that conduit which was broken. As I stated, there is some of our property, some of our material which does not pass through our store-room and on which we charge a supply expense of 6%, because we have to order that material. We have the expense of preparing the requisitions, that is, our superintendent of supplies has to order, has to originate those requisitions and we have to handle that material when it is received. In other words, the storage of this material in our store-room is merely a part of the supply expense. I have taken the average supply expense for all of our material, and have considered the various things that enter into our supply expense and have gotten an average of 6%.



That covers all of the different kinds of material used; that supply expense is not apportioned in our accounting of poles or  
2501 cables, or other individual items of plant. We actually have that expense here in Houston every day, and that averages 6%. I have made a careful study of the records of the Company and have gotten that information and I consider that that figure of 6% is a most conservative figure. I know that other engineers in arriving at their unit costs include this item of expense. They use a supply expense figure of from 5 to 8 or 10 per cent, but in an effort to be conservative, and also in that the supply expense has been 6% for a number of years I have taken 6%. I know what it actually does cost. Then taking the price material and adding thereto the freight on a pole from Escanaba, Michigan to Houston, Texas and then adding a supply expense of 6% you get a total cost of \$1.64 per pole for the 15 C Class. For the 30 foot B pole, which weighs 473 pounds the price of the pole at Escanaba, Michigan is \$8.46, the freight on that pole is \$2.45, making the total cost \$10.91. Adding to that the supply expense makes the total cost of the pole f. o. b. Houston \$11.56. These poles do not all weigh the same. On page 17 you will note that poles vary in weight according to their length and class from 100 up to 850 pounds each. The 15 C pole is listed here at 100 pounds but those poles do not always weigh exactly 100 pounds, that is the average weight that we take and is based on a specification pole. Of course, some of the poles are larger,—none of them are smaller. At the bottom of the page is the following: "Note: Cost of poles at Escanaba, Michigan. Cost of material for butt treatment not included in this unit." I showed you on  
2502 this board what the butt treatment was. "Labor and Incidental costs for placing and hauling not included in this unit." That is treated in another part of this Exhibit, on page 23. The rest of those pages between page 17 and page 23 are taken up with the price of poles and supply expense and freight charges to Houston on the different sizes and classes of poles. The 30 foot B or thirty foot C class of pole predominates in Houston. On page 17 is the one I spoke of a few minutes ago. The 30 foot C, the weight is 375 pounds. The cost of the pole is \$6.01. The freight is \$1.94 plus the supply expense which makes the total cost of the pole f. o. b. Houston, \$8.43. The 30 foot C Pole, if that be the predominating pole in Houston and I think it is,—there would be over half the total number of poles in Houston of that class. There is over 8,000 set poles in Houston, something like 8,000 of them.

On page 23 of this exhibit is labor and incidentals. "Labor includes the unloading, shaving, framing pole, that is, cutting the pole and roofing it and drilling a hole through it, the locating and digging the hole," the setting up of the pole, the back filling, the temping and the supervision. By the word "unloading" there, I mean the unloading of the poles from the wagons when they are hauled out. A considerable portion,—the greater portion perhaps of the poles are hauled direct to the job. By "shaving" I mean that the poles come with a considerable amount of bark on them and they



have to be shaved before they can be set. They are shaved  
2503 with a draw knife. I don't know whether the City Ordinances of Houston require a pole to be shaved before it can be put up in Houston,—I don't know what the Houston City Ordinances are. I know that it is customary for the City to have an ordinance which requires that the pole be straight and shaved.

Mr. J. D. Frank: I think those are the facts, in Houston that the City Engineer requires this shaving to be done.

Mr. Howard: I think there is an ordinance requiring it to be painted.

Mr. J. D. Frank: Well, that is what I had in mind to develop, the painting of the poles. When it came up, the City Engineer, I believe, stated that all poles should be shaved.

By the term "framing the pole" is meant cutting a roof on the top of the pole so that the pole, which comes with a flat roof, if the pole was set that way, then water would stand on that roof and would cause decay. Therefore, the top of the pole is roofed to drain it and to prevent decay. That is, it is trimmed up so that it is shaped just like the roof of a house. Other framing consists of drilling or boring a hole in the pole and flattening the face or the back so that a cross-arm may be attached. In other words, we cut a little square  
2504 place in the pole so that the cross arm will fit in tightly against the pole. Then, after you have prepared that place to put your cross-arm in, you bore a hole through the pole there so the bolt can go through and attach a cross-arm to the pole. If that framing was not done the cross-arm would not fit tightly against the pole and would get out of line. The locating means measuring and determining the point at which the pole shall be set. The digging of the hole speaks for itself. The setting of the pole means placing the butt of the pole in the hole and raising the pole up into a vertical position. It depends upon the size and the length of the pole and the particular location at which it is being set as to how many men it takes to raise one of those poles but ordinarily about six men are required for that. A long heavy pole set in a location hard to get to might require as many as 10 or 12 men. By "back filling" is meant putting in the dirt after the pole has been put in the hole, and by "tamping" is meant packing of the earth solidly around the pole by means of tamping tools so that the pole will not get out of line. We have particular tools for that purpose. This item of supervision is the extent of superintendence. It includes that amount of money which is chargeable against constructions, that expense of the supervising force up to the General Manager. It includes such items as salary of the Division Superintendent, the General Superintendent. This item of average labor per pole, \$4.30 is the average labor for all of the different kinds of poles which we have in Houston. I arrived at that average by analyzing  
2505 the cost of pole work. Our accounting is done so that we cannot determine what the labor cost of a 25 foot pole may be against a 40-foot pole. All labor costs incurred in connection with pole construction are charged to what is our 11-C account; that

is, the pole account. That "C" means construction which is a code that is prescribed in our system of accounting. Those records are made at the time the work is done by the workmen, when working alone; and by the gang boss where there is a gang. He turns in a daily report of the work done, the number of hours which he and his men spent on each kind of work. A gang boss might have a gang of 10 men. They may work five hours on pole constructions and 3 hours on cable construction, and he would turn in his daily report showing what part of the time he has worked on constructing poles, and what time he has devoted to working on the cables, so that when the job is completed we can tell exactly what it cost to set the poles and what it cost to set the wires or stretch the cables or whatever they were doing, but we cannot tell what it cost to set a 25 foot pole or a 35 foot pole or a 45 foot pole. That account is not kept separate as to the various sizes of the poles but it is just taken for the poles as a whole. I am not sure that the average cost for setting a 35 foot pole is greater than it is for a 25 foot pole. This average price that I have here per pole is for setting poles in the City of Houston and that is based on the average cost of doing this work for the year- 1918 and 1919.

This incidental expenses down here includes teaming, dis-  
2506 tributing, and other miscellaneous expense items not covered under material or labor. The incidental expense is reported in like manner as is the labor expense. If a team were hired at \$7.00 a day it would be paid for by voucher, and would be reported as incidental expense, and in case that team were used on the pole construction, it would be incidental expense, 11-C.

Street car fare incurred by men who were working on pole work would be reported in like manner. I do not think of anything else in connection with that particular item of expense that I wish to discuss.

On page 24 of my exhibit I have the unit cost of Pole Line Miscellaneous, which means the painting of Poles and the butt treating of Poles; also the cost in place. The painting per pole requires an average of four pints of paint per pole. The butt treating of poles requires an average of two and one half pints of dead oil of coal tar. The cost of material is shown, plus the supply expense, and the labor cost of painting and the butt treatment, which total gives the cost in place, that is, the total cost of painting the pole or the total cost of butt treating the pole. This figure four under "Painting Pole" is the number of pints of paint required to paint the pole. The figure 2.5 under "Butt Treating Pole" is the number of pints of dead oil of coal tar or carbolineum required to butt treat the pole. The cost of that is shown opposite "Cost in Place." That shows the cost of

Painting under the heading "Painting Pole" and over at the  
2507 right hand side that shows the cost of "Butt Treating" a pole.

My exhibit shows with reference to the cost of the solution which we use in treating these poles that the carbolineum f. o. b. Houston costs  $54\frac{1}{2}$  cents a gallon, or 6.81 cents per pint. Dead oil of coal tar f. o. b. Houston, 38 cents a gallon, or 4.75 cents per pint. Carbolineum is one preparation for treating a pole and dead oil of

coal tar is another preparation. We have estimated that 85% of the butt treatment poles were treated with Carbolineum and 15% were treated with dead oil of coal tar. "Labor" includes the cost of treating and painting the poles and the supervision of doing this work. The incidentals include,—in this case it includes the brushes used in the applying of the dead oil of coal tar and the carbolineum.

Page 25 shows the cost of poles cribbed and poles set up in sidewalks. It shows the poles cribbed with concrete. The cribbing was explained yesterday. The material, is \$10.48, f. o. b. Houston. The labor at \$3.10, the incidentals and the total gives us the cribbing in place at \$15.31. The prices of that concrete and that material were obtained from the bills.

This item, "Poles set in sidewalks" is explained first, the walk has to be cut before the hole for the pole can be excavated. Then after the pole has been set and the earth tamped in around it, the sidewalk has to be repaired which requires the concrete and cement, 2508 and I have considered the cost in place and the cost of material in doing that particular kind of work. We have only applied this cost where we could see that poles had been cribbed. Ordinarily, a pole cribbed with concrete, all of the concrete is below the surface of the ground and you cannot tell whether a pole has been cribbed or not. On two or three poles in making our inventory, we found that the concrete extended above the ground and therefore we included that cribbing. There was a considerable number of other poles cribbed which we could not determine were cribbed at the time the inventory was made. At my heading "Poles cribbed with concrete" I have a little star there and down at the bottom is a little star explaining that 1.6 cubic yards of concrete was used at 6.55 per cubic yard which makes \$10.48 for doing the work on one of these poles, cribbing one of these poles with concrete. I arrived at that figure by determining the size of the hole and estimating the quantity of concrete used. Ordinarily I can tell from the size of a pole as to what the size of the hole was originally and that is what I did in arriving at this figure of 1.6 cubic yards.

The next item, page 26, is "Unit Cost—Pole Line—Accessories." That shows the cost of wood and iron pole steps per 100 steps. I have figured out the cost of galvanized iron steps, f. o. b. Houston cost 7.377. The total material cost of the step, of the 100 steps with the supply expense included is \$7.82; the labor is \$5.25. The labor is the labor of placing the steps on the poles and I figured that it cost \$5.25 to put 100 steps of those galvanized iron steps on 2509 poles. In placing the pole steps, the pole has to be drilled; that is, a shallow hole has to be drilled; then the step is driven in, one end of the step being fettered like a fettered drive screw. The step is driven almost all of the way in and then turned about three times so that it will stay in the pole and we estimated the amount of time required to step a pole and applied those estimated costs.

The wood steps f. o. b. Houston are \$2.23½ per 100. The nails—we use a long wire nail to attach those steps to the side of the pole, cost \$1.162 per 100. The total cost of the material, including the

steps and the nails is \$3.60. The labor of placing the steps is \$4.35, which added to the incidental cost, makes the total cost \$9.10, or 9.1 cents per wooden step in place.

The next item on page 27 is "Pole Line Accessories—Cross Arms." "Cost in place." The 10 pin arm is the arm generally used. The cost of that arm at Houston is 79.1 cents. The miscellaneous material that goes with the arm is 86.6 cents. The miscellaneous material is the braces and bolts, making the total cost of the material with the supply expense included \$1.756. The labor of attaching the cross-arm is \$1.05 which with, the incidental expense added makes the total cost of the arm in place \$3.156. We have some 5,500 of those cross-arms in Houston, of different sizes, and the average that

I have used here is the average cost of putting a cross-arm on.  
2510 We have determined the cost of each cross-arm of each particular size and there is quite a little difference in the cost of the material. The 4 pin cross arm costs 32.9 cents f. o. b. Houston, the miscellaneous material that goes with it costs 47.6 cents, which with the supply expense added makes the total cost of the material 85.3 cents. The labor cost of placing a 4 pin cross arm has been estimated at 75 cents, which with the incidental expense added makes the total cost of the 4 pin arm in place \$1.80 as against a cost of \$3.15 for the 10 pin arm. I have been speaking of the fir cross-arms. A 10 pin creosoted cross arm f. o. b. Houston costs 76.1 cents. That is not f. o. b. Houston, that is f. o. b. Texarkana, with the freight added which amounts to 11.3 cents plus the miscellaneous material which goes with it, the braces and bolts, etc. amount to 86.6 cents and adding to that the supply expense, makes the total cost of the material f. o. b. Houston \$1.844. The labor for placing a 10 pin creosoted arm has been estimated at \$1.05, which with the incidentals added, makes the total cost of the creosoted arm \$3.24.

The cross-arms on page 28 are double cross-arms. Where a number of wires are terminated, a single arm ordinarily will not hold the wires and therefore two arms are placed. Those arms are bolted together so as to make them strong and rigid. That is the type of arm which is dealt with on this page. That is the two cross-arms bolted together and we call those double arms. I show on  
2511 this exhibit the cost in place of those particular kinds of cross-arms. The 10 pin double arm, the fir arm, the cross arms f. o. b. Houston are \$1.522. The miscellaneous material that goes with those arms is \$2.13½, which with the supply expense added makes the total material cost \$3.94; the labor of placing those arms is \$2.45 which with the incidentals added makes the total cost of the double arm in place \$7.09.

Page 29 also has reference to cross-arms. That is miscellaneous material. On the previous pages I spoke of miscellaneous material costs. Page 29 sets out in detail what the miscellaneous material is that goes with the cross-arms. The miscellaneous material required with a 10 pin cross-arm consists of 10 1¼ inch by 8 inch locust pins. It requires 11 6-D nails to fasten the pins in the cross-arms. It requires a cross arm bolt, that is, a bolt which is placed through the center of the arm and through the pole to hold the arm in place.

It requires 2  $2\frac{1}{4}$  inch square washers. It requires 2  $\frac{3}{8}$  inch by  $4\frac{1}{2}$  inch carriage bolts. Those are the bolts that are used to attach the braces to the arm. It requires two  $\frac{1}{2}$  inch round washers. Those are the washers that go under the head end on the carriage bolt. It requires one lag screw, which is used to fasten the braces at the pole and requires two 30 inch braces. Those are the braces which extend from the pole out to the arm to help hold it in place. All of the miscellaneous material for a 10 pin arm totals 86.63 cents.

I have figured out the actual cost of each item of the miscellaneous material. The last figure under each column shows the total cost of that miscellaneous material.

On page 30 of my exhibit I treat the miscellaneous material necessary in connection with double arms. That is treated the same as the other miscellaneous material.

Page 31 shows the cost analysis of back braces and brackets, the cost in place, each. The back brace is an iron brace used where you have a considerable strain on an arm and is placed as a reinforcement to the arm. The cost of the 9 foot angle iron galvanized back brace in Houston is \$1.28. The miscellaneous material which goes with it costs 12.4 cents, which with the supply expense added makes a total cost of \$1.4844. The labor cost of installing an angle iron back brace has been estimated at 75 cents, which with the incidental cost added makes the total cost of the back brace in place \$2.33. You will note on each of these pages immediately below the total cost in place an entry "Cost used." That means the cost used in the appraisal. Many of those items total fractions of a cent and those fractions have been eliminated in applying these costs in the appraisal. If it is less than half a cent I knock that off and if it — more we add it. In this particular case we eliminated the .44 cents.

Page 32 is a detail of the miscellaneous material used in connection with the back braces and with the brackets, which shows how we arrived at the cost of the miscellaneous material.

2513 The miscellaneous material that makes the back braces consists of four  $\frac{3}{8}$  inch by four and one-half inch carriage bolts, and four round washers, and the total cost is 12.04 cents.

Page 33 is a continuation of our pole line accessories. This page deals with anchors, that is, anchors without the guys attached.

One kind of anchor which is used is the Everstick patent anchor, a sample of which we have on the board. The cost of the 8 inch Everstick anchor is shown on the first page of your material sheets. The cost of the rod that goes with that anchor is shown here as .793 cents. The miscellaneous material which goes with it is \$1.03, which with the supply expense added makes a total cost for all the material of \$1.93. The labor cost of installing it is \$2.25. To install an Everstick anchor, it is necessary to bore a hole in the ground at an angle in line with the pole which is to be guyed to the anchor. A large dirt augur is used for that purpose. The hole is bored about seven feet deep. After the hole has been bored the anchor is inserted, the Everstick anchor proper being placed solidly against the bottom of the hole. A heavy tamping bar or digging bar is then used to

expand that anchor, that is, to drive the two sides of the anchor into the firm earth on either side of the hole. After that is done the hole is filled and tamped. And that is what is meant by the \$2.25 labor cost. It depends wholly upon the character of the earth as to the average time to put one of those anchors in place in the ground. In a heavy, black, dry gumbo it might take a man half a day. In clay soil a man might install one in a hour, or even in 45 or 30 minutes. I have taken the average cost of doing this work. I have estimated that cost by consulting our records as to what it has actually cost in Houston for doing that kind of work. Compared with the cost of doing this kind of work in other parts of the State, as to whether that is a low or high figure, well, this is rather a large state, and you have many different kinds of soil. All excavation work in Houston is quite expensive on account of the kind of soil, and on account of the large amount of water in the soil, and the considerable rain fall here.

Page 34 also deals with anchors. That is the detail of the miscellaneous material, which go with the anchor. I figured that out just as I figured out the cost of miscellaneous material in connection with the cross arms. All of the costs are built up in detail, showing how they were arrived at and what they are.

The item treated on page 36 is line guys. That is the guy wire only, cost in place. One item there is a 6-M strand that is a 5-32 inch suspension strand with a strength of 6,000 pounds. The cost of the strand f. o. b. Houston is \$1.82, which, with the supply expense added makes the total cost of the material \$1.93. The labor cost of placing that guy is \$2.75. To place such a guy it is necessary to employ skilled linemen, who have to climb the poles, who

have to place around the pole at the place where the guy is to be attached a strain plate, and usually guy hooks. The strand itself is very stiff and hard to handle. It is difficult to wrap it around the pole. After it has been wrapped around the pole it is then made up; that is, the end is fastened to the guy proper by means of a three bolt buy clamp. The same process takes place where the guy is dead ended on the succeeding pole, a line guy being a guy which extends from one pole to another. The total cost in place of one of those line guys is \$4.98. We cannot use just ordinary labor in doing that kind of work. That requires skilled labor, and requires special tools for handling that steel strand, and requires blocks and tackle to pull the strand up. It simply cannot be laid up. If it were it would not do the job for which it is placed, for which it is intended. That is, it would not hold the pole for which it is to be the guy. Therefore, a set of block and tackle has to be used to pull it up, and the salary of the men who do that work is considerably in excess of the salary of the ordinary laborer.

Page 37 of my Exhibit shows the unit cost of pole line accessories, and covers guy clamps, strain plates, poles, shims, guy hooks, and strain insulators. A pole shim is a form of strain plate. The present strain plate which is used is this small galvanized piece of metal, about four inches wide, by eight inches long, a sample of which I have on the board. Before we used that type of strain plate, we

used other kinds of strain plates, which we have called pole shims, and that is what they were generally called years ago. The  
2516 guy hooks are the hooks placed on either side of the pole to hold the guy strand in place, to keep it from slipping down the pole. The strain insulators we saw in one of the photographs yesterday, where we had a guy on private property, with a strain insulator in it, where the guy was exposed to electric light wires.

A 3 bolt galvanized guy clamp, f. o. b. Houston, costs 21 cents. The strain plate of 4 inch by 8 inch galvanized iron costs 17.12 cents. The pole shims costs 2 cents; the guy hooks, galvanized, cost 12.64 cents, and the strain insulators 14.77 cents, and I have added on to the cost of the material the supply expense of 5% and that gives the total cost of it.

On page 38 is an item "guy guards." A guy guard is a—it might be best described by calling it a wooden box, or an iron box or pipe, which is placed around the guy wire at the ground line. The guy wire is small and is a little hard to see, and the guy guard is placed to prevent people running into the guy wire. It has been the experience of the Company that where they do not have these guy guards they have a good many accidents, people running into them, and even with wooden guy guards and the guy guards painted white they sometimes run into them. The three piece wood painted guy guard, f. o. b. Houston material costs 60.7 cents. The miscellaneous material in connection with that is  $4\frac{1}{2}$  cents, which with the supply expense added makes the total material cost 69.1 cents. The labor of installing a guy guard is 65 cents, which with the incidental expenses added of 25 cents makes the total cost of the guy  
2517 guard in place \$1.59.

We have in the Houston plant approximately 990,000 feet of aerial cable. Fifty pair cable per 1,000 feet, f. o. b. Houston is \$191.90 and the cable loss per thousand feet is 1.91 dollars (\$1.91). What I mean by cable loss is this: I have explained how cable splice is made. The two ends of the cable are brought together and overlapped about two feet. Then to make the splice the workmen strips the lead off the cable and connects the wire on the right to the proper wire on the left. He necessarily cuts half of the wire coming from either way, and in making the estimate of this loss we have credited the cost of the cable with the junk value of the copper and the lead which are removed when the splice is made, and have figured the loss as representing the difference between the cost of the cable new—that is, we charge the difference between the cable new that is cut off in the making of the splice, and the salvage value. We have instructions which we issue to employees which are designed to prevent the waste of that material. We are very careful. The lead and copper, of course, have a considerable junk value and we are careful in getting that into our warehouses so that we can sell it. We try to get the men to take care of it.

The miscellaneous material per thousand feet of fifty pair cable is \$6.45. Add to that the supply expense makes the total material cost for fifty pair cable per 1,000 feet f. o. b. Houston,  
2518 \$211.52, or a cost of \$21.15 cents per foot. We have approximately 990,000 feet of aerial cable in Houston.



Page 40 is similar to page 39, with reference to an analysis of cost, it is a different size and different kind of cable. I have treated our miscellaneous items of expense which go along with that cable on page 44. This is the miscellaneous material per thousand feet of the material. First, we have estimated the number of splices per 1,000 feet of cable, and in the case of fifty pair cable we have estimated 2½ splices per thousand feet. That estimating is quite accurate, in that our aerial cable records show where the splices are in general. The material in the case of the fifty pair cable consists of fourteen and a half pounds of lead leaves, necessary to make those splices, that cost \$1.61. That is not \$1.61 per pound but the total. The muslin which is used to wrap around the wire splice after it has been completed and before the lead leaves has been placed over the splice, we use one and one fourth yards of, which cost 26¼ cents, the cost of the muslin being 21 cents per yard. We could not use a cheaper cloth than that because a cheaper cloth will tear after the wires are spliced together they bulge out larger than the lead there, and strong cloth has to be used to bind those wires together and make them as small as possible before the lead sleeve is placed over the splice. Then six pounds of solder would be used in making the joints. That is for the purpose of closing up the lead sheath on the cable at the place where the splice is made. There are two wiped joints at each splice. The cost of the solder would be \$2.2272. There would be four pounds of paraffine used in boiling out that splice. The splice is boiled out twice and sometimes three times, and the cost of the paraffine would be 44.32 cents. There would be 1½ gallons of kerosene used in the furnace to heat the paraffine and to heat the solder. We use a kerosene stove for the purpose of heating this, and in as much as all of this work is done out in the open air we have to have a special type of kerosene furnace with which to heat our solder and our paraffine. There would be four pasters used, which would cost 68/100 of a cent. The pasters are pieces of paper which are wrapped around the lead sheath of the cable and wrapped around the lead sheath, which is placed over the splice immediately adjacent to the point where the whipped joint is to be made. That is done to prevent the hot solder from adhering to the lead excepting at the point where the joint is to be wiped. There are 270 5/32 inch cotton sleeves used, at a cost of 12.9 cents. Those cotton sleeves are used to cover the wire at the point where it is spliced, and they make the insulation of each wire continuous.

There are 8/10 of a pound of tallow candles used. That is used as a flux on the lead sheath and on the lead sleeve at the point that the joint is wiped, at a cost of 1.16 cents. There is 2/10 of a pound of soft soap used per 1,000 feet that being used at the time the cable is placed. There are 25/100 feet pf marlin used, at cost of four cents, the marlin being used to tie up the cable we splice. Marlin is a heavy twine, treated with a preservative. That makes the total cost of the fifty pair cable, of the miscellaneous material per 1,000 feet \$6.4479.

Page 47 of my Exhibit is the Unit cost of aerial cable, and is an

analysis of the freight per 1,000 feet of cable, and taking again the fifty pair cable the cost f. o. b. factory is \$200.00 per 1,000 feet. I am speaking of fifty pair AA, 22 gauge. The cost of that cable f. o. b. the factory is \$200.00 per 1,000 feet. The shipping weight of that cable is 1,755 pounds, which includes in addition to the cable itself the weight of the reel, the large spool on which the cable has to be wound, and includes the lags placed on the outside of that reel to protect the cable. The freight at 61.3 cents per hundred weight is \$10.76, making the total cost of fifty pair 22 gauge cable, f. o. b. Houston \$210.76. I have figured that freight from Hawthorne, Illinois to Houston, Texas. After the cable is taken off of the reels those reels are returned, if in good condition, to the factory. The reels are charged to the Telephone Company at the time they are shipped out and the Telephone Company is in turn credited with the value of the reel when it is received back at the factory. All of that on page 47 is an analysis of the freight per 1,000 feet of various type of cable.

On page 48 of my Exhibit is shown the unit cost of aerial 2521 cable, the labor and incidentals. The labor includes the boring of the holes in the poles to place the bolts on which the hangers are supported, which in turn supports the suspension strand, which holds the cable; the placing of those bolts, and of the washers and clamps, the placing of the messenger strand and of the cable rings, that is, the rings in which the cable itself is suspended from the messenger wire; the setting up of the cable reel, the removal of the lags from the reel, the greasing and the pulling of the cable, the splicing and testing of the cable, splicing terminals to cable, and the necessary supervision. That amounts to 9.9 cents per foot, and that labor cost represents the same thing as the average cost applied to poles represents, in that our accounting is so handled that we cannot determine, or we cannot differentiate between the difference of the labor cost of 25 or 50 from 100 pair, or any pair cable. But this is the actual cost per foot of stringing this cable. The item of incidentals includes the deliver of the cable, the messenger strand, of the bolt, of the clamps, and other hardware splicing and other material and tools, returning empty reels and other tools to the storehouse or yard, and all teaming and miscellaneous expense not included under material or labor. That amounts to 9/10 of a cent per foot of cable. The total labor and incidentals amount to 10.8 cents per foot. The total labor and incidentals of the underground dips amounts to 20.1 cents per foot which is higher than the aerial cable. Included in that cost is the cost of laying the 2522 pipe up the side of the pole and placing of the pipe underground, and the second pipe up the succeeding pole.

I now turn to page 49 and will give you an analysis of the cost of constructing the messengers. This is material only. In that the labor cost as applied to the aerial cable covers the cost of the placing of the strands themselves. The material cost per 1,000 feet of 6,000 pound strand is \$20.47. The miscellaneous material that goes with it is \$2.84, which with the supply expense added makes the total material cost \$24.71 per 1,000 feet, or 2.47 cents per foot.

We have miscellaneous material which accompanies the construction of these messengers. The miscellaneous material that goes with the 6,000 pound strand is a suspension clamp, one bolt, which costs 70.35 cents per 1,000 feet. The suspension clamp, the three bolts, costs 65.4 cents per 1,000 feet, there being three of those used in 1,000 feet. The  $2\frac{1}{4}$  inch square washers, of which there would be twenty used per 1,000 feet, costs 46 cents. The "A" bolts used, of which there would be ten, cost 87.8 cents per 1,000 feet; making the total cost of the miscellaneous material \$2.8375 per 1,000 feet of strand.

On page 51, cost of labor and incidentals of the aerial cable. That is on messenger extensions. We have included the cost of placing the suspension strand, but where aerial cable is not placed, 2523 that is, where they have messenger extensions shown on page

51, then we have considered the cost of placing the messenger, the extension, strand itself only, and that labor cost is  $1\frac{1}{2}$  cents per foot of strand, which includes boring holes, bolts, washers and clamps, and placing strand, and the necessary supervision. The incidentals include the delivery of the messenger strand; that comes on reels; the delivery of the bolts and clamps and the other material, and the tools necessary to place it.

We have been figuring out the cost of miscellaneous material in connection with the poles, and also miscellaneous material in connection with the cables. I have samples on that board. This is a strain plate, a four by eight inch galvanized iron strain plate. These are different kinds of suspension strands, and also are used as messenger strands, or as guy strands. This smaller strand is a 6,000 pound strand; that is, it has a tensile strength of 6,000 pounds. The next size is the 10,000 pound strand, and the next size is the 16,000 pound strand, the 16,000 pound strand being used for supporting large size cables, and for holding heavy strains when used as a guy. This is a "B" bolt; that is, it is a double unit bolt. This is an "A" bolt, that being a single unit bolt. I spoke of an "A" bolt in connection with the suspension of the fifty pair cable. The bolt would be placed through the hole; a  $2\frac{1}{4}$  inch square washer would be placed beneath the head of the bolt, a second  $2\frac{1}{4}$  inch square washer 2524 nut. Then immediately beyond this nut would be placed this hanger, or one of these hangers, anyway, because on the fifty pair cable it would be this small single hanger. That portion of it would go right on the bolt, then the suspension strand would be placed in this hole in the hanger, and this nut turned down, and the hanger would clamp the suspension strand. This is a thimble. When the guy is fastened to the anchor rod, that is the anchor rod, and this is the eye of the rod, where the guy strand is fastened. This thimble is inserted in the eye of the rod and the strand bent around it. That is done to prevent the constant vibrations wearing through the strand. With the 16,000 pound strand this large thimble is used. This is an iron bolt, the end which goes into the pole is threaded, like a fether drive screw. It is partly driven and then turned in. This is a wooden pole step, and these are the nails used

for fastening the wooden pole step to the pole. Those nails are about six inches long. This sixty penny is six inches long. This is a 2¼ inch square washer, which is used against the poles, on the bolts. This is the three bolt guy clamp which is used on the strand to make it up, to fasten it where it is carried around the pole. This is a bracket, placed on the pole of on a house. The paired insulated wire is supported on this small portion of the knob, which is on the bracket, and tied. There is always some vibration, and it is, therefore, necessary to support the two wires which make up the pair of the insulated wire. Those wires are not tied on each side of 2525 that knob. The insulated wire tie is made on one side. The bare wire when placed on an insulator is tied on both sides. This is a guard which is placed on the side of a pole where there is a considerable off center pull. A heavy aerial cable which is suspended on a messenger, the messenger in turn being fastened to the pole with one of those clamps, the pull might be away from the pole. If we had a very large cable, say weighing about 5 pounds per foot, if anything happened so that strand got loose and dropped the cable, it would probably do a great deal of damage. So where we have a heavy pull we place one of those guards. Then, if anything happens to the hanger, if the thread on the bolt strips, this guard we expect to hold the cable and prevent it from doing any damage. All of those items are miscellaneous material, used in connection with our pole construction. There is one other item of material that I spoke of two or three times, which is small, but quite important. That is a dowel pin, which is inserted in either end of a vitrified clay duct. There is a little collar on the pin. There is a hole in the wall in the end of the vitrified clay duct. This little collar prevents that dowel pin from going away back in the hole, so that half of the pin goes into one length of duct and the other half of it goes into the other length, and that helps to maintain the two lengths of duct on the same level.

On this other board here I have some of the miscellaneous 2526 items of material used in connection with cable construction. These are rings which are placed on the suspension strand to support the aerial cable. This is the large sized ring used for large aerial cable. The cable lies in the ring in that manner (illustrating). These are smaller sizes. This is a different type of cable ring. This portion of the ring is placed over the strand and clamped, and the cable lies in here. These are smaller types. This is a galvanized iron pipe, used as subsidiary conduit. This is solder used in wiping joints. This is a wooden pin, which goes into a cross-arm. There are ten such pins in a ten pin arm. This is a galvanized iron cable rack, which is placed in a man-hole to support underground cables. Immediately above that rack is a cable hanger. That hanger hooks into this rack, and it extends out at right angles to the rack, and the cable rests on the hanger. These are clamps used for clamping the cable in buildings or along the outside walls. The clamps are also used to support cables in man-holes, on poles and other places. There is a hole down here which permits us

to place one of these rings to carry block wire which may parallel the cable line.

On page 52 of my Exhibit is miscellaneous aerial cable material, clamps, strain plates and shims, and safety straps. First I might say that the cost of placing this material, the labor cost, is included in the cost of placing the aerial cable. On this particular sheet only the price of the material is shown. We have one item here of a 2527 three bolt clamp; the price f. o. b. Houston is 21 cents, which with the supply expense added makes the total cost of a three bolt clamp in Houston 22.3 cents. The four by eight inch galvanized iron strain plate costs 18.2 cents, f. o. b. Houston, including the supply expense. I have a note down here saying "No. 1 safety strap includes cost of two drive screws." Those screws are used to fasten the safety strap to the pole.

On page 53 is shown "Rings and Hangers." The large wire ring that was just shown on that board was a three inch Neverslip ring used for supporting aerial cable. Those rings cost \$20.17 f. o. b. Houston,—that is, per thousand, which with the supply expense added makes a total cost of 2.14 cents per ring.

Page 54 is Aerial cable, different types of terminals. We have shown a No. 14 type, galvanized, 16 pair terminal on our board. That is sometimes called terminal blocks, but improperly so. It is the terminal. Terminal blocks means just that in large blocks. The 16 pair galvanized cable terminal is known as the 14-C. The cost of the terminal f. o. b. Houston is \$6.01. The miscellaneous material that goes with it costs \$2.86 which with the supply expense added makes \$9.40, total material cost. The labor cost of placing the terminal is 40 cents. Skilled labor has to be employed to place those terminals. They have to be mounted on the pole at a 2528 certain distance from the aerial cable. When mounted on

buildings they have to be mounted at a certain height and in a certain location in relation to the cable. The incidental expenses added to the labor and to the material makes a total cost of 14-C 16 pair terminal in place of \$9.88. We have about five thousand of those terminals in the Houston plant.

Page 55 and also page 56 is with reference to the same class of property. Page 57 shows the miscellaneous material that goes with the Cook type of terminal. In that miscellaneous material there are 2.2 pounds of lead sleeves, used for the terminal splice. There is half a yard of muslin used; 3½ pounds of solder, 2½ pounds of parra-fine, a gallon of kerosene, 2½ pasters, 55 cotton sleeves, 6 style A bridle rings, those bridle rings being installed when the terminal is installed, and to carry the wires leading out from the terminal; two long saut clamps, two galvanized screws of one type and four of another, three tenths of a pound of candles, and fifteen feet of marlin, making a total miscellaneous material of the cost of \$2.8568, that goes with the terminal. We have figured that the average terminal splice is a splice into a 100 pair cable. That note on the bottom of this page 57 is worded: "Average 100 pair splice per terminal—all size terminals." We have terminals in 25 pair, 50 pair, 200 pair, 300 pair, 400 pair, and 600 pair cables. There are two

kinds of solder used in the terminal work. The 40-60 is used in wiping, and the 50-50 is soldering; that is, soldering with an iron. The wiping material is coarser than the other metal.

The 40-60 solder is 40 per cent tin and 60 per cent lead. The 50-50 solder is 50 per cent tin and 50 per cent lead. You cannot wipe a joint with the 50-50 solder. The tin runs.

On page 59 of my Exhibit I treat No. 61 protectors, which is a lightning protector used to protect the plant against lightning. That is not the type of protector which we saw yesterday, the kind used in residences. The protectors generally used in residences is the No. 58 type. There are other types, but that is the one generally used. This is a protector which is placed at the end of an aerial cable, at the point where the open wire enters the cable, and prevents lightning going into the cable and burning it up. The protector mounting costs \$3.40; the protector block, No. 19 blocks, cost 50 cents; No. 20 blocks, 50 cents. The micas, No. 11, cost 55 cents; the carriage bolts, used for fastening the protector and mounting, cost five cents; which with the supply expense added makes a total cost of a No. 61 protector, amounting, including the equipment, to \$5.30. The labor cost of placing this is 50 cents, the incidentals cost 13 cents; making the total cost of the No. 61 protector in place \$5.93. The No. 61 protector is mounted out on the cross-arm. It requires skilled labor to place them.

On page 61 of my Exhibit I have an analysis of the cost in place of bond wire. Bond wire is wire connecting our underground cables with the negative bus bar at the Houston Electric Light Company's Plant. It is a bond wire installed to return to the Houston Electric Light Company the stray electrical currents picked up by our underground cables. We have some 211,000 circular miles of stranded return wire here in service, and 259,000 circular miles stranded of cable. The cost of the 250,000 f. o. b. Houston is \$294.80 per 1,000 feet. The miscellaneous material is \$1.45 which, with the supply expense added, makes \$314.03 per 1,000 feet. That is a very large stranded copper wire with a heavy waterproof insulation. The labor cost of placing is \$30.00, which with the incidental cost added makes a total cost per 1,000 feet of \$345.53, or a cost per foot of 34.6 cents. That is used only where needed to return the stray electrical currents which our underground cables pick up to the electric Light Company's Plant. The item of \$30.00 for labor is explained by reason of the fact that is a very heavy wire to handle. That wire is strung aerially along the poles to the Light Company's plant, and is connected through a subsidiary pipe into one of our man-holes, at a point close to the Light Company's plant. It is run both underground and aerially. There is some miscellaneous material that goes along with that bond wire, and that is complete on page 61. We have only a small amount of that wire in the plant.

On page 64 of my Exhibit I have "cost of line wire in place." No. 17 copper clad twisted pair wire, of which we have over 2,000,000 feet in the Houston Plant. The wire cost \$15.28 per 1,000 feet f. o. b. Houston. The miscellaneous



material cost 56 cents per 1,000 feet, and with the supply expense added the total cost gives \$16.79 as the total cost of the material. The cost of placing is \$6.35 per 1,000, which, with the incidental expense added makes the total cost of the wire in place \$24.34 per 1,000 feet, or approximately 2½ cents per foot.

An analysis of miscellaneous material is shown on page 65. With the No. 14 bare iron line wire we use exchange line insulators. Those are small, pony, glass insulators, which screw on to the pin in the cross-arm, to which the bare wire is attached. The iron tie wire is used in fastening the line wire to the insulator. The total cost of the material is \$1.96 per mile of wire. There are 2,135,000 feet of No. 17 twisted pair line wire in the plant. That wire is supported on 12,142 iron brackets. On each bracket there are two 4 groove knobs, making a total of 24,284 knobs at \$21.24 per 1,000. There are 934 iron brackets with one 4 groove knob, at \$21.24 per 1,000, making \$19.84. The 24,284 knobs at \$21.24 per 1,000 makes \$515.80. There are 20,055 No. 4 knobs, which are attached to the pole on a cross arm with a 3½ by 20 flat head screw, No. 20 flat head screw, which costs \$11.56 per 1,000, making a total for these of \$231.84. To go with those are 20,055 screws at \$12.58 per 1,000, making a total cost of \$252.29. The total cost of that material is \$1,019.77.

Page 66 shows the cost of drops in place; that is the wire 2532 from the pole to the subscriber's premises. The No. 17 twisted pair wire costs f. o. b. Houston \$1.42. The miscellaneous material that goes with it costs 10 cents per drop which with the supply expense added makes a total material cost of \$1.61. The labor per drop is \$1.06, which with the incidental cost added makes \$2.97, total cost of drop in place.

Page 67 shows the items of miscellaneous material that goes along with those drops. The number 4 porcelain knob costs \$1.16 per 100. The No. 16 three inch flat head screws cost \$1.26 per 100. The house brackets cost \$6.11 per 100—a small, galvanized iron bracket. The stove bolts with which to fasten the brackets cost \$1.07 per 100. The two groove porcelain knobs cost \$2.12 per 100. The 1½ inch No. 14 wood screws cost 41½ cents per 100. The number of units of each of those kinds of material is shown under the heading "Twisted Pair," and the total cost of 10.31 cents is shown also under that "Twisted Pair."

On page 70 immediately under the "vitrified clay multiple tile" heading is a second heading, showing the number of ducts. Opposite that heading are the figures, 2, 3, 4, etc., indicating the size of the duct run. Under the heading "6," that means a six duct run, and the costs per 100 there represent a six duct run cost per 100 feet. I mean by a 6 duct run a duct which has six holes in there for placing cable. The conduit f. o. b. Houston costs \$54.36 per 100 ft. 2533 The breakage on the vitrified clay conduit has been figured at 2%. The conduit is ordinarily shaped and hauled direct to the job. There is always a considerable amount of breakage, and our experience has been that a 2% allowance for breakage is a fair allowance. I mean that every time we construct 100 feet of this duct we



break 2 feet, have a loss of 2 feet. That is not a duplication of the breakage which occurs in the supply expense. The only breakage which is charged to the supply expense is the loss, the shrinkage, etc., which takes place on the material which is in the supply house. The majority of this material goes to the job direct. If we were putting in some of this duct out here on McKinney and had laid 200 feet of it and broke four feet in doing that, that would be charged to the job. The foreman would have received the full amount of conduit, and when he finished up he did not have any conduit left. He might have a few pieces of tile scattered around in the street somewhere. He would simply report the total amount of that conduit as laid. There is nothing that can be salvaged out of that broken duct because vitrified clay multiple duct is very brittle and has to be handled with considerable care and there is a considerable breakage on all jobs. That comes from Brazil, Indiana.

The next item is concrete. That is the concrete used to enclose the vitrified clay duct. Before the duct is laid in the trench a concrete base is laid. That base is from 4 to 6 inches thick. Then the duct is laid on the concrete base and concrete poured over and  
2534 around the top and either side of the duct, and tamped in in good shape. The idea of putting all of that concrete around the duct is because the underground conduit construction is initially very expensive, and we expect it to last many years, and the concrete encasement is built to prevent the vitrified clay duct from interference by other people excavating in the street, and also to insure a permanent structure. At times the earth washes out from beneath, and with a good concrete foundation under it and concrete encasement, the duct becomes self-supporting.

The next item is miscellaneous material, \$2.28 per 100 feet. That makes a total of \$86.09 for 100 feet, without including supply expense. It makes a total with the supply expense of \$91.26. The labor cost for laying this duct per 100 feet is \$119.00 which includes the cost of excavating, the placing of the duct, the mixing and placing of the concrete, the back filling and the supervision. Those trenches are about 2 feet wide, and the depth varies. The minimum depth is, to insure a clearance above the top of the duct, of 30 inches to the street level. We encounter obstructions, water pipes, sewers, and other things in the streets, and sometimes have to lay the conduits twelve or 15 feet deep. That is because there is some obstruction there which prohibits our laying the duct fairly close to the surface. We do not lay the duct any deeper than we have to of course. The incidental expense is \$18.00 making the total cost in place of a 6  
2535 duct line per 100 feet \$228.26 or \$2.283 per foot. There is a miscellaneous material item that goes along with that and it is shown on page 79. For the 6 duct run, which is the 6th item on that sheet we have considered only the most economical way in which that duct could be laid. A 6 duct run should be laid two wide and three high. I mean that the six ducts are two wide and three high. The overall area in square inches is 285 square inches, which with the area of the six duct conduit itself deducted leaves 117 square inches, which in turn means the area of the encasement, or the

amount of the concrete, 168 square inches, or 1.17 square feet, which in turn leaves 117 cubic feet of concrete per 1,000 trench feet, or 4.33 cubic yards. The cost of the concrete is \$6.55 per yard, and for the six duct run there is \$28.36, which is about  $3\frac{1}{4}$  yards.

Page 80 shows the number of yards of burlap used with vitrified clay multiple tile. I might explain that the burlap is used for wrapping the conduit at the joint, and to support the mixture of neat cement which is laid around each joint to prevent any mud or gravel getting into the duct. Another item is the dowel pins used where the two lengths of the duct are joined together. Those are the only miscellaneous material that go to make up the vitrified clay.

Page 78 is the unit cost of underground conduit main and details of the concrete and mortar. The mortar is used for laying the man-

hole box and the concrete is used in the trench as a base for  
2536 the conduit, and also as a complete encasement for the conduit. In addition, it is used for the roofs of man-holes and for the bottoms of man-holes. Under the heading, "Man-hole Bottoms Trench" is "1-3-6." That is the concrete mixture, one part sand, 3 parts cement and 6 parts gravel. For manhole walls and tops we use a different mixture, 1-2 $\frac{1}{2}$  and 5, and the mortar is a mixture of sand and cement only, 1 to 3. This table is worked out on the basis of 100 cubic yards of tamped concrete. To get 100 cubic yards of tamped concrete requires 150 cubic yards of loose material. There is a shrinkage when cement and sand and gravel is wet and there is also a considerable wastage; when the concrete is mixed out on the street, the cement gets wet and there is a good deal wasted from the mixing boards. All the engineering hand-books recognize those two factors. We have allowed for a 30% shrinkage and a 5% wastage. In other words in order to produce 100 cubic yards of tamped concrete we have to have 150 cubic yards of the ingredients to use, of the loose material, and this table shows how the cost of the cubic yard of concrete is arrived at. The amount of cement used, the amount of yards of sand, the yards of gravel, and that is reduced on this page to the cost of a cubic yard of concrete. I got the prices of the cement and concrete and gravel that I have used from the Houston dealers, from the bills from Houston dealers. Those are all  
purchased locally in Houston, of course.

2537 Page 81 shows the cost of concrete encasement per 100 trench feet of fibre conduit. In the case of the six 3 inch fibre conduit, the overall area in square inches is shown. The area of the six 3 inch ducts is deducted and the area of the concrete encasement is thereby arrived at and in turn the number of cubic feet and the cubic yards of concrete required to enclose the duct and the cost is shown on the basis of \$6.55 per cubic yard.

Page 83 of my exhibit covers brick manholes, the cost in place of brick manholes. Those bricks were purchased locally, in Houston, and I have taken Houston prices on those. And the covers and frames that go with the materials of course, are manufactured locally. This sheet details the cost in place of different types of manholes, shows the quantities of material, the prices of the material and the labor cost.

Page 94 of my exhibit covers the cost of the material used in the manholes, that is, the manhole frames and covers; the pulling in irons, which are the v-shaped irons installed at either end of the hole, used in connection with the pulling in of underground cable; the conduit plugs,—which are the wooden plugs used to block up the ducts which are not in use to prevent the water carrying into those ducts a deposit of silt and mud, and also to prevent to as great an extent as possible the accumulation of sewer and illuminating gas in the hanholes; the cable racks are galvanized iron racks which have been shown here, which are placed on the walls to support the  
2538 cables; the manhole ladders are u-shaped pieces of iron placed in the walls of the larger manholes.

The first item is the frames and covers, the 21 inch round cover, the unit cost is \$8.95. Those covers and also the iron frames that go with them are manufactured and purchased locally, that is, they are manufactured in Houston and we purchase them from Houston dealers.

Page 95 is a detail of the cable run-ways in the Hadley and in the Preston Central Office Buildings. One of our photographs showed the underground cable vault, the underground cables entering the Preston Central office building, and shows an iron run-way and iron rack on which all of those cables are supported. Sheet 95 gives in detail the quantities of material and the cost of those run-ways.

Page 96 is underground conduit subsidiary, cost in place, per trench foot. Those pipes are purchased in Houston. Page 101 of the exhibit shows the cutting and restoring of pavement over manholes. We have five different kinds of pavement in Houston that we have to cut and restore in constructing these manholes. They are bithbulithic, brick, creosoted blocks, macadam and cement. The second heading is the square yards of pavement which has to be cut and also restored when manholes are constructed. We have to cut  
2539 9.5 yards of pavement and have to restore 9 yards. The reason we restore less than we cut is because we have to excavate a hole the full size of the man hole which has to be constructed and finally however, the opening in the manhole is whatever the dimensions of the cover used on the manholes are. We therefore have to restore pavement over all of the excavation, excepting that portion represented by the size of the cover. The cost of cutting was estimated by us. We had a good deal of that work and know what it costs. As I have testified we have about 700 manholes in Houston, all of them are not under paving, however. The cost of restoring per square yard those paving costs, were obtained from the Houston City Engineer's office; and in restoring pavement in Houston, we have to first put up a bond before we can excavate in any of the streets. That bond is to insure proper restoration of the pavement. The money is not returned to us until after the repairs to the pavement have been inspected by the City Engineer's office. Next, where the paving company contracts, covering the maintenance of the paving, have not expired then they insist, of course, on making the repairs. We ordinarily handle the restoring of pavement through the City. That is, under the ordinances of the City or

under the rules of the City Engineer's Department we are not permitted to restore this paving ourselves. We are permitted to restore some of the older brick pavement ourselves, but often in those cases we have to get permission from the City Engineer to do that. He

has charge of all of the paving, of course. That is in order  
2540 to see that the City may see that the streets are kept in proper condition. Page 103 is underground 22 gauge cable, the material, per 1,000 feet, that is, the cost of the material f. o. b. Houston. I will give you an analysis of one particular piece of cable, Fifty pair cable, the cost of 1,000 feet f. o. b. Houston is \$191.19. The cable loss, which is the splicing loss and which loss has been explained, is \$1.91. The miscellaneous material, that is, the splicing material, clamps and other things, all of which has been detailed in connection with aerial cable, the cost is \$7.71 per 1,000 feet, which with the supply expense added makes a total cost of \$212.86, or 21 cents a foot. Out to the left there, "cost used per foot" \$221.29, is incorrect. That first 2 is an error, that is a typographical error; the cost used is 21. That is, it should be 21.29, and not 221.

Page 108. That is silk and cotton insulated lead covered cable, used for terminating the paper insulated cable on the main distributing frames in the Central Office or in buildings. The paper insulated cable cannot be exposed to the air. It absorbs moisture which destroys the insulation resistance. The silk and cotton cable is formed up, after being boiled out with a mixture of beeswax and parraf-in and is shellacked and baked and will not then absorb moisture. That silk and cotton cable is spliced to the paper insulated cable and it is sealed so that the moisture cannot get into the paper insulated cable.

2541 Mr. J. D. Frank: You have there, cable loss, 5%. I have noticed on some other types of cable that you have a cable loss of 1%; on another size, cable loss of 2". Now, why is it that you have a difference there in that cable loss?

Mr. Hoag: On other types of cables, the loss is made up of the loss incident to splicing and the loss is determined by the number of splices, and — this type of cable the loss is greater. First, the junk value of the lead and copper is out of all proportion to the initial cost of this cable. The initial cost of the cable is high as compared to other cables with a like number of cable pairs, due to the special silk and cotton insulation. Then, in forming up the silk and cotton cables, connecting them on the main distributing frames, the wires have to be cut, on 20 pairs, the frame requires the top 20 pairs are 11 feet away from the lead sheet and in the case of 100 pair cable that means that 20 pairs would be cut off about 2 feet shorter than the top 20 pairs and the wastage is considerably greater than in the making of the splice where only a 2 foot lap is made and only that amount of wire cut off.

Page 109 is the detail of the material required per splice. I have explained that in connection with some other type of cable.

On page 113 is a freight analysis of the freight cost per 1,000

feet of underground cable, different sizes of cable. That sheet 2542 shows the cost of the cable f. o. b. the factory. It shows shipping weight in pounds per thousand feet, the freight rate per 100 pounds and in turn the cost of the cable f. o. b. Houston. The cable is shipped from the factory, in general, from Hawthorne, Illinois.

As I testified yesterday the cable comes on reels and the reels are returned to the Manufacturers and we are given credit for that. The cost of the reel is not included in the unit cost or in the appraisal. Only the cost of the cable is included plus the freight that has to be paid on the reels. The reel is returned to the manufacturer and during the time it is in the Telephone Company's hands it is in the supply account. The supply account is debited with the value, the cost of the reel, and is in turn credited with the cost of the reel when it is returned. Some of those reels, of course, are broken, and that is one of the things that goes to make up the supply expense in that when a reel is broken, then the cost of the reel is charged as supply expense. In other words I haven't included in my cost of cable here anything for the value of those reels other than the money which we would have to spend as freight charges, plus the cost of such reels as would be destroyed and as might be included in the supply expense. The 6% supply expense cares for those things.

Page 114 is a 22 gauge cable stub. In one of our photographs was shown a main under-ground cable in the man-hole and a 2543 stub, that is, a smaller cable placed into that main under-ground cable and carried by the side wall of the manhole up close to the roof.

Page 121 shows the cost of the miscellaneous material in connection with underground subsidiary cable, different sizes of underground subsidiary cables. The 100 pair cable, the cost per splice is \$2.21, that is for the miscellaneous material which we use in making that splice, and the cost per 1,000 feet is \$19.01.

Page 123 is underground cable subsidiary, protected type, terminals. We have shown pictures of the large F X cable box mounted on poles where the underground subsidiary cables terminate and where aerial cables are connected to the underground cables. The 404 pair F X cable terminal, the material for the terminal f. o. b. Houston is \$277.60; the miscellaneous material is \$77.90; with the supply expense added, the total material cost for one of those 404 pair F X terminals is \$376.83. The labor is \$72.00. That labor includes the placing of the box on the pole, and the making of the splice in the box. With the incidental expense added, which covers the hauling and other miscellaneous expense, the total cost of that 404 pair F X box is \$455.58. It requires skilled mechanics to put those boxes in place and connect up the wires to the boxes. It requires two or three linemen and a helper to mount the box on the pole. It requires a first-class cable splicer to do the splicing work with the box.

2544 Page 130 covers pole seats and pole balconies, the cost of these items in place. The pole seat is used with a smaller sized protected terminal. The No. 52132 is mounted with the 50



pair terminals. The cost of the seat is \$5.50. The labor cost of mounting it is \$1.00 and the total cost with the supply expense and incidentals added, of the seat in place is \$7.48. The pole balcony, which is a large balcony used with the larger sized terminals on which men stand when working in those boxes, costs \$8.55 at Houston, and with the miscellaneous material, the supply expense, the labor and the incidentals added, costs \$14.59 in place. I have included as the cost of labor in constructing one of these boxes the sum of \$4.50. The way the balcony is mounted, the balcony is made up of two angles iron legs which are attached to the pole and supports the under part of the floor; also of the angle iron frame around the floor and of the iron rail around the balcony to prevent a man stepping off of it. One man cannot put one of those boxes by himself, it takes at least two linemen and a helper. A block and tackle has to be employed to pull the balcony up on the pole, and then it is fastened to the pole by means of two iron bolts. That is, the bolts are fastened through the pole. It takes these men to erect one of these balconies two to two and a half hours. Of course, they spend some time getting to the job and some jobs might take a half a day and some might be done in an hour and a half. It takes something like three men to do that work, requires two linemen. They

2545 have to be mounted on a pole some distance from the ground. Page 133 is underground cable subsidiary, block cable, 22 gauge; cost of material per 100 feet of 200 pair cable cost f. o. b. Houston per 100 feet \$60.96. The cable loss amounts to \$2.44. There are a considerable number of splices in block cable. That is cable that is fastened onto the wall or the roof of buildings. The miscellaneous material is \$7.46, which, with the supply expense added makes the cost per 100 feet of 200 pair block cable, material only, \$75.11, or 75.11 cents per foot.

Page 140 is underground cable, house, that being the cable which is installed within the buildings. That sheet treats with the material cost of house cable per 100 feet. The 100 pair cable costs \$35.324 per 100 feet, f. o. b. Houston. The cable loss per 100 feet amounts to \$1.766; the material, miscellaneous material costs \$12.88, and with the supply expense added, makes the total material cost for a 100 pair house cable \$52.968 per 100 feet, or 52.97 cents per foot. We have a considerable quantity of that material in Houston.

Page 154 deals with the station equipment, with the apparatus and the cords, protectors; that is, the telephones themselves. The first item is No. 20-B desk stand. The cost of the stand is \$1.40; the cost of the cords that go with the stand, the No. 450 cord, is 59¢, 2546 with the supply expense added, makes the total cost of the 20-B desk stand, including the cords, \$2.10 each. There are various other items of equipment that go along with that. The next item is No. 73-A Sub-set. A sub-set is a different type of set from the desk stand. The cost of that set is \$3.85, and the total cost is \$4.081, including the supply expense. No. 58-A protectors, that is the type protectors used at the subscribers' stations. That is to protect the station and premises against the lightning. The total cost of that, of the material is 68.4 cents. There are other types used.

Page 160 is a part of the station equipment, the private branch exchange. This sheet covers the frame work. The frame work of the private branch exchange is the iron work and cabinet work only. In the case of a No. 4, 320 line capacity, private branch exchange, the cost of the frame work, including the supply expense, material, labor and incidentals is \$362.30. That is the cost in place. That frame work is not a complete private branch exchange switchboard. There is other material that goes along with that and is treated on the following pages.

Page 162 is line and position equipment which goes with the private branch exchange. I will give you an analysis of the cost of the items. The subscribers' line circuit with the relays 2547 included is the wiring, the connecting lugs, and other equipment which goes to make up that circuit and which is installed in the private branch exchange switchboard. The cost per subscriber line circuit is \$1.082. The cost in place is \$1.147. The remaining items on the page are of different kinds of circuit, the different circuits requiring different kinds of equipment and wiring.

Page 164 is station apparatus, private branch exchange, special apparatus cost in place. The first item is a No. 46A repeating coil, which is installed in each of the private branch exchanges. The material cost is \$7.00 f. o. b. Houston which, with the supply expense added and the labor cost added makes the total cost of 46A repeating coil in place \$8.141. This exhibit entitled "Unit Costs and Material Prices" does not show the detailed cost of our central office equipment. We have not included that in our unit cost and material prices because in purchasing central office equipment the equipment is contracted for installed. The order is placed with the manufacturers to manufacture and install that equipment. It is handled on a contract basis in like manner as a building would be constructed. The detailed cost of the Central office equipment is, however, included in the appraisal, and the prices of all of the material, the quantity and the insulation costs, all detailed costs are shown in the appraisal. We do not purchase the various items going to make up those switch-boards, but we purchase those by a 2548 contract under the terms of which the boards are assembled and installed in our buildings. That is shown in the appraisal. In arriving at our unit costs and material prices I have not included what is known as overhead charges in those prices. Overhead charges are the expenses of the General Manager and Vice-President and other Executive Officers of the Company,—in other words, general superintendence and engineering expense. Interest during construction is the third item. Those are the only three items of general expense which we have used. That is treated in the appraisal.

Cross-examination.

(Questions by Mr. Howard:)

The inventory was made under my direction, and by my force, whereby we counted or otherwise ascertained the property and listed it in the inventory I have offered here in evidence as an exhibit, and



then I applied to that inventory, and as set up there, the unit prices as I found them to be and as set up in my other exhibit here.

In making this inventory I just excluded the property not used or usable for telephone purposes. Briefly that was the Houston Home Telephone Company lot and Building, the lot and building acquired by the Southwestern when they took over the Houston Home Telephone Company in Houston Heights at Harvard and 5th.

2549 A small lot, 20 x 20 which was a store room lot owned by the Houston Home Telephone Company, and the old Taylor Central Office lot and building at the corner of Center and Taylor Streets. Those three pieces of property. I also excluded all the dead drops. That is the wire that is not connected to working telephones, and also the wire in the buildings that are not connected to working telephones, and in residences, it being our practice in our accounting system to charge that part of the property off at the time the telephone is disconnected. Also the transmitters, receivers and induction coils which are not the property of the Telephone Company, the Southwestern Telephone Company. Also the furniture and fixtures used by the District men who have their headquarters here in Houston was excluded in that those men have no supervision over the Houston exchange. I did not consider the long distance because I was considering only the Houston local exchange property. All the long distance property has been excluded, and that is long distance switch boards, the toll underground cables, the toll poles and wires and cable boxes, all parts of the long distance plant, including the toll test boards and telegraph equipment and other associated apparatus. That property, of course, is all owned by the same company and is just a difference in the way you inventory and account we charge it to, a matter of classification and segregation. The property I have excluded as performing long distance toll purposes

has been used exclusively for long distance toll service. Every  
2550 telephone in Houston connected to the Houston Exchange might be used for long distance purposes as well as local purposes. In fact a great many of them are used. I inventoried all of those lines and those exchanges and those lines leading to individual telephones and included all the buildings, the exchange buildings, four of them in the City. There are four exchanges but there are only three central office buildings because the Capital Central Office equipment is housed in the Preston Central Office building. There are four central offices, but three central office buildings. All those Central Office Buildings are used by the long distance tolls in that long distance calls when completed over a subscriber's telephone, passes through the central office equipment in those buildings. There is no long distance equipment in the Taylor Central Office building, nor in the Hadley. All of the long distance switch boards and equipment is in the Preston Central Office building. It is necessary that they have a house for this long distance toll apparatus and that apparatus is quite considerable and quite expensive. The business done and the revenues received from the long distance service is very extensive, and amounts to a great deal of money in the course of a year.

"Q. If the earnings were pooled of the long distance service and of the local exchange, the long distance service originating here, and formed one general fund, have you any idea about what proportion the revenues received from the long distance service would bear to the whole fund?"

2551 "A. No, sir, that is an accounting matter, and I did not go into that. The auditor handles that branch of the matter. That is Mr. Scott. All the lines, the individual exchanges, the individual telephones are all ready to receive long distance service, and to carry on and transmit a long distance call to the subscriber, and do it whenever the subscriber has a long distance call. The telephone company has for years advertised to the effect that each telephone is the center of the system. There are over seventy-eight thousand places in the United States that can be reached from any local telephone connected with the Houston exchange. They are a part and are used in that long distance service and help to produce the long distance revenue, every individual telephone. It depends of course, on the number of calls, the particular individual subscriber received. Some are very active in handling and carrying on long distance service and some are very seldom used for that purpose. All of them are equipped and ready for that service at all times, but if this is a proper answer to your question: The development of the local telephone rate was carried on simultaneously with the development of the local telephone exchange. I mean the rates for local telephone service were developed as the local telephone exchange was developed. The rates for long distance service were developed along with the development of the long distance lines, and in my judgment the rate for a long distance call is between the long distance switch-board. It should be. In my judgment it is not from the originating individual subscriber in San Antonio to the individual subscriber in Houston. My opinion is that that rate is from the long distance switch board in San Antonio to the long distance board in Houston. In other words, it is chargeable only to the long distance and those earnings are necessary to carry the long distance calls. It is by no means a donation,—transmitting the calls and carrying them to the long distance central office and delivering them from the long distance central office in Houston to the subscriber. It is by no means in the nature of a donation. The local exchange is credited with a percentage of the long distance earnings. The earnings from the long distance line,—that is, a percentage of those earnings is credited to the local exchange, that percent, in the case of Houston, being 25%. That 25% covers for the cost of completing those long distance calls in the Houston exchange. Every individual telephone is available for handling long distance calls, they advertise that fact and are proud of it and they are used. That is the practice and custom. The Preston Central Office Building here houses the long distance equipment. But in the inventory we only apportion a portion of the furniture and fixtures used in the handling of the business of the Houston Local Exchange. However, we did inventory the entire building and inventoried it as the property used in the local

2552

service. We also inventoried every individual or local tele-  
2553 phone, and every sub-station as the property in the local  
service. All of the property inventoried in the Houston ex-  
change is necessary in the rendering of local telephone service in the  
Houston Exchange. Also it is necessary in rendering first class up-  
to-date long distance service, it is to the joint interest of both of them.

"Q. All this wiring and local sub-stations, and conduit and all  
this splicing and poles, and everything of that kind is a joint enter-  
prise, and they are used in that way, so then it becomes a matter  
of accounting, which I understand you didn't go into, to try to  
segregate and show how much of the property is used on one, and  
used on the other, if you had to make a division between the two  
as to earnings and expenses?"

"A. No, sir, the answer to that is the answer which I gave you  
just previously, which is to the effect that all of the property in-  
ventoried in the Houston Exchange is necessary in the rendering of  
local telephone service in Houston. There could be no sub-division  
made."

"Q. You answered the question a while ago that it was all neces-  
sary also to an up-to-date, first class long distance service. You  
couldn't have first class long distance service in this City to-day  
without those very things that are being used in the local service."

"A. We couldn't have any long distance service in Houston with-  
out telephones."

To a great extent the local exchanges are the feeders and the  
2554 revenue producers for the long distance enterprise. I can  
remember when the telephone came into existence. The  
telephone would run through a town and the people would go in  
there and talk over the long distance exchange, and would get their  
messages in that way, and it was used very seldom, very extra-  
ordinary for a man to use long distance telephone service before they  
had exchanges, and then the business progressed and the exchanges  
were built up, and people began talking to their neighbors and to  
their wives, and then they began to feed the long distance lines be-  
cause naturally the easier you make it for people to talk long distance  
the greater the amount of business you get from them. So then, we  
get back to the original proposition that they are mutually beneficial  
to one another, the long distance helping the local exchange, and  
the local exchange helping long distance, but I wish to reiterate that  
the property inventoried is all necessary for the local, exchange ser-  
vice. It is necessary for long distance service, also, long distance  
service can be rendered without the local telephone exchange. It is  
also true that a very good local service could be carried on in the  
community without the long distance service. So that it comes  
right back to the point that they are mutually beneficial, one to the  
other.

I made this inventory and supervised it and know that it is pretty  
thoroughly made, and as nearly as these things can be, it reflects the  
facts and condition of the property, and the amount of differ-  
2555 ent things. By the term unit cost and material prices I mean  
the cost of labor and incidentals. I applied the 1918-1919

average prices of material. I got the 1918 average by going to the original bills for the different kinds of material as shown in the inventory. In most cases it was purchased for Houston exchange, but there were some items of material, of course, that had not been purchased for Houston during that period and we therefore used other bills. The company as a whole had occasion during those two years to purchase more or less nearly every kind of material going into a telephone plant.

"Q. Even after getting that, you found that during those two years at certain places and certain times you had to purchase certain material and to employ certain labor, and incidental expense in installation. How did you get that?"

"A. I might answer that by telling you that I have considered all different kinds of work done in Houston and in other places in the State. For example: In the cost of underground conduit construction I analyzed one complete job which I supervised in San Antonio in 1917, and the cost of that work complete was 9 cents per duct foot of conduit. The work was handled under very favorable conditions in the South end of San Antonio. Mexican labor was plentiful, the material was received in time, the work went along extremely well, and was hurried, and the cost was comparatively low. In

Beaumont there was completed during the latter part of 2556 1918, or the early part of 1919 a considerable amount of underground conduit work done in connection with the establishing of the new Beaumont Central Office. That work was handled during a rainy period, and a trench caved in and they had lots of trouble, and labor was scarce and that job cost 37 cents per duct foot." The other one I spoke of cost 9 cents per duct foot.

Those were two. I carefully analyzed many jobs on that same basis, and used my best judgment in applying the labor cost and the incidental cost which has been used in this appraisal, being careful to be conservative and to make those costs normal costs. The excavating, of course, was com-on labor. Brick masons were employed in constructing the manholes and skilled men in laying of the conduits. Our regular construction foremen and assistant foremen were employed in handling the work. Practically all that excavating is com-on labor, the actual digging of the trench. I did not get the unit of cost of com-on labor upon 100 yards or per yard on excavation or per cubic foot by adding 9 to 37 and dividing it by 2 but I considered those two jobs together with many other jobs, and exercised my best judgment as to what that work would cost in Houston. I don't know what quotient I finally got as the basis for that unit of work, cannot answer that off-hand, but I have the figures of course. The prices for material that I applied to this inventory were prices that prevailed either in 1918 or 1919, when the particular kind of material had been purchased during 2557 those years. You understand, of course, that in this Houston

Exchange plant there are certain items of material of different designs, and we have not purchased the particular kind of material for maybe eight or ten years, and in arriving at prices on those

kinds of material I went back 8 or 10 years and used the old prices. Those prices might have been brought up to date, but they would have been materially higher than the prices used. To that extent only my statement that it is made entirely by 1918-1919 is incorrect. Some part of this plant may have been in service here for 20 or 30 years but I don't know that as a fact. I am not in a position to state the percentage of plant that was added per year. I did have a memorandum showing the per cent that has been added for some nine years prior to this time but I do not appear to have the particular memorandum I was looking for here. I can tell you this, and these figures are approximately correct, that the gross additions to the Houston Exchange for the last five years were about three and one half million. Those are gross additions, actual expenditures of money. I got that information from the accountant. That would take us back to about September 1914. I don't know what period of that five years these additions were made.

Mr. J. D. Frank: I will explain, Mr. Howard, that we intend putting that in later. We will cover that fully.

2558 In 1917 the United States entered the War and prices advanced quite rapidly in this Country, but prices have been advancing for many years, sort of an upward trend, perhaps a certain per cent a year from year to year. If I remember correctly that sharp advance in prices and costs was first reflected about March, 1917, just before the United States entered the war, and created a great demand for American material and American labor. Other manufacturers and industries were put into competition with the cost plus ten per cent basis of the government and there was a very radical charge, and run up to 100% in a great many instances, and in many instances it exceeded that. There have been some reductions in those prices, but in general they are prevailing today I should say. In other words it is definitely known that the entering of the European War by this Country brought about a radical advance in prices of both material and labor and nobody disputes that. And those prices, brought about by a specific cause, more or less prevail today. I cannot tell you off-hand how much of this plant was constructed prior of March 1917. Mr. Frank has just told you that that would be submitted, and if it is submitted, it will show the gross additions by years, I assume. What I have tried to do, Mr. Howard, is to prepare a conservative, careful estimate of the reproduction cost new of this property at this time.

2559 "Q. I understand. What I want to know is, in connection with that, or incidental with that, if you made a study of the percentage of this plant as to when it was constructed, how much of it was constructed since 1917, and practically how much of it was constructed prior to 1917, and in what years those additions were made?"

"A. To determine the reproduction cost new of this property at this time I prepared this inventory. I counted the property and I found out what property was here——"

"Q. (Interrupting.) I understand that. My question was, if in connection with that, or incidental to it,—I understand your main undertaking was to inventory this property correctly and apply to it unit prices and material cost to see what it could be built for under prices prevailing in 1918-1919. That was your chief undertaking, as I understand."

"A. My chief undertaking was to determine what the reproduction cost new of this property was as of October 1st, 1919."

That is what I have done and that is all there was to it. I made this inventory and applied these prices to get at the reproduction cost new at this time. The question you asked as to whether I made that investigation or not, wouldn't enter into this job and this is the job which I did. I know something about when this plant was built in this way: In 1905 or 1906, I was sent to Houston to do the field work incident to preparing plans covering outside construction work for the Houston exchange. At that time in the section of the city south of McGowen Avenue and west of Fannin Street, all the subscribers connecting into the Houston Exchange in that section of the City were connected with that one 50 pair aerial cable. Since that time we have built large, heavy pole lines, and we have replaced those, and that 50 pair cable, with large aerial cables and large heavy pole lines. We have also later replaced those large heavy pole lines and heavy aerial cable with underground conduits, and at this time we have underground conduits, extending over into the new Montrose addition. In 1905 I did a very substantial lot of work on this plant and have been doing it every since continually, during 1906, 1907, 1908, 1909 and 1910,—right along each year. Since 1917 we have completed certain of that south end conduit but I can't answer how much off-hand. I can look it up for you and tell you, however. We have also completed the Harrisburg road conduit from Milby street to about Yoakum, or beyond, a distance of about a mile and a half, and have, of course, done a large amount of other work. Since 1917, I cannot state approximately how much additions have been made to the plant, in actual cost, I cannot answer that off-hand.

I have been intimately associated with construction work all over the state of Texas for many years, and have known from 2561 year to year about what work cost, and about what prices of material were.

"Q. Can you answer this question: If you could get an average of prices prevailing during the years of the construction of this plant, get the prices at the time the different constructions were made, get the average of those unit costs and material prices—"

"A. (Interrupting.) You mean starting to-day and working back for a number of years?"

"Q. This plant was built at a certain time, and there is probably some record of it, the books of the company should show it, that a certain amount of work was done each year and what the work was. If you could get the history of the construction, and the history of



the prevailing prices at those times and get the average cost of the plant, of constructing the plant?"

"A. Such prices and costs might be prepared, yes, sir."

That would necessarily be an estimate. Estimates enter into all construction work. I don't know whether the prices upon which I am theoretically reconstructing this plant are 25 or 50 or 200% above the prices that prevailed as the plant was constructed. I don't think the prices would be double. Prices on telephone material have not doubled since 1914. Some items of material have gone up 120 and 130%. I testified yesterday, or the day before, that in general the prices of material had increased, materials which are used in

the outside distributing system between 50 and 60% since 2562 about January 1915, and previous to 1915 prices had shown a steady, normal up-ward trend, but there had been no material increase in prices previous to that time from year to year. There had been a normal up-ward trend but not an abrupt change.

As I have stated prices have advanced since I made this appraisal, which was made as of October 1st, I don't know what caused that. Since October 1st business has been in a rather unsettled state, for some time, it has been particularly unsettled between the period of this date and the date of October 1st, but I question whether that would have affected prices. It might affect production, but I do not know that it would affect prices. It is not a fact that anything that limits production, and limits distribution and makes difficult distribution operates almost certainly upon prices, as certainly as the law of gravitation. It might have just the reverse effect. Manufacturing plants throughout the United States have had to cut down on account of the fuel shortage. The railroads have been unable to transport a considerable quantity of the manufactured material which has been offered to them, and that has resulted in some manufacturers not being able to work full time. Labor is the big thing that enters into the cost of the manufactured article. It might be true in the case of a contractor that a man that undertakes to furnish certain equipment at a time when he doesn't know whether he can get coal and a time when he don't know  
2563 whether he can get material transported to him, is bound to add something to insure against those hazards and those risks.

"Q. These men are virtually in the position of a contractor. They either are going to make this stuff for you, or have it made. In either event, the stuff they have on hand the price will be reflected on it just the same, because it is to take the place, or stand in the place of an article that is to be manufactured?"

"A. I don't quite see that, no sir. A contractor who took a contract to put up a new building and to complete that building in a certain specified time, might add something to the contract price of his building to protect him against delay in shipment of material, and that sort of thing."

"A. Take a man that has a stock of shoes on hand, and he bought them at a certain price level and he had a good profit on them, but



something happens, he finds out it is almost going to be impossible to get leather, or would be very difficult to get it, won't that hazard be immediately reflected on the price of shoes that he has on hand?"

"A. You are speaking of shoes. A very good friend of mine, Mr. Graham Payne of Dallas, who is in the shoe business, I have discussed the matter of fuel shortage with him, and I asked him what it had meant to his business, and he said it meant nothing other than he couldn't get the shoes he wanted. It has not affected prices."

2564 "Q. I was using shoes more as an illustration; that is the natural thing, if a man has on hand any stock of goods, has them so they are available to him, and he knows it is going to be hard to replenish that stock, those conditions are ordinarily reflected in the price of the stock he has on hand, are they not?"

"A. You are talking about supply and demand, and that does have its effect on prices."

The question where the fuel shortage and a lack of rail facilities is responsible for any increase in prices in telephone equipment and material since October 1st, 1919,—I question that. The way prices are determined on telephone equipment apparatus like switchboards, is about as follows: The Manufacturer of that equipment keeps accurate cost data. They build that up and examine it frequently, and then in entering onto contracts for the delivery of the manufactured central office equipment from time to time they know what it has been costing them, naturally take into account what it might cost them in the future and set their prices accordingly. They do not change prices often.

"Q. Right there. That is what you apprehend they did,—what they have got to do. Then, when they are confronted with a condition like this, and they have got to quote prices on central office equipment, they will say "in addition to these things we have

2565 recorded here and have before us and know with reasonable certainty, we are confronted with this unusual and extraordinary condition: We have to figure whether we will be able to get this material, and whether the railroads will be able to run, and whether the manufacturer will supply us with this material, the different elements to go into the Central Office switchboard, what they are going to charge us," and then aren't the bound to add something to take care of those unusual conditions?"

"A. In the case of Central Office equipment that could not be done."

"Q. Didn't I understand you to say the other day that Central office equipment was manufactured largely upon such specifications?"

"A. Yes, sir."

"Q. Their quotations are based largely upon specifications?"

"A. They are based upon the manufacturing cost, plus the cost of raw material."

"Q. The Manufacturer would have to take into consideration in making quotations, during the period of the coal strike, the then

conditions, and would have to consider them in making their quotations?"

"A. In central office equipment material the change in prices was put into effect as of November 1st, 1919, was probably decided upon months before, for the reason that those prices are sent out in the form of a printed catalogue to telephone companies all over the

United States, and those catalogues were received during 2566 about the middle of October, and was a notification to the telephone companies to the effect that these prices would apply on and after November 1st. That is stamped on the catalogue and those catalogues cover a multitude of equipment and apparatus, a large amount of stuff. And just the work of compiling the cost data would take weeks, and probably months."

This coal strike did not come on over night, I have forgotten the exact date it started. In my judgment the reason for the increase in the prices is the labor cost and I base that on the fact that the rate of pay has steadily been going up. To get good men and hold them you have to pay a great deal more to-day, everybody does, you have to pay a great deal more than you used to. There has been an increase of 10% in the rate of pay put into effect in Houston by our company since October 1st. I wasn't considering the girls, I was considering the men, linemen, cable splicers and that class of men who would have to do with the reproduction of this property here. Our Company has been raising the rate of pay regularly about every ninety days. The rate of pay for the telephone manufacturing people has been going up steadily just as ours has, and just like the carpenters and plumbers and brick-layers. There has not been any talk of reduction during the last six months, but quite the reverse. The carpenters and brick-layers and plumbers and electricians and other people are continuing to ask for more money. Our daily 2567 papers tell us the railroad brotherhoods are demanding more money. The last large general raise for railroad men was to the shop employees, which, as I recall it, was about six months ago. I don't think the question of whether the manufacturers are going to get coal or transportation and that sort of thing affect the price of central office equipment material.

I said that the gross expenditures since 1915 were approximately three and one half million dollars but I don't know during what period those five years that was done, how much was before 1917 and how much was since 1917.

Redirect examination.

(Questions by Mr. J. D. Frank:)

The local plant is not charged with any of the long distance equipment and I have segregated all of the long distance equipment in making my inventory of the property. If there were two telephone plants in Houston and one was so equipped that the subscribers could use it for long distance service, and other was not so equipped so the subscribers could use it for long distance service, certainly the plant

which could render the long distance service in addition to the local telephone service would develop the local business faster. An example of that is the American Telephone plant at Dallas as compared to the Dallas Manual Telephone Plant. Before the Dallas American Telephone Plant was consolidated with the Manual Plant they had in service approximately ten thousand local subscribers, while the Manual Plant had in service,—the Manual Plant being the plant which had the long distance connection,—some twenty-seven thousand subscribers. It is a most distinct advantage to a local company to have this long distance connection.

Mr. Howard: Right there, Mr. Frank; Suppose you ask him, if you don't mind, if there were two long distance concerns operating through Houston, and one of them had a local exchange and the other did not, which would develop the faster?

Mr. Frank: Go ahead and answer his question.

Mr. Hoag: The one with the local exchange.

It certainly is a mutual benefit, both to the long distance service and the local service to have those connections. This local exchange receives a part of the earnings from the long distance business on account of this connection but that matter will be handled by the accountants when they get the revenues and expenses.

With reference to a comparison of common labor in San Antonio, Texas and Houston, Texas,—the price of common labor at San Antonio is considerably lower than at Houston, in that there are a very large number of Mexicans in San Antonio. The price of common labor at Beaumont, Texas compares with the price of common labor at Houston, it is just about the same.

The Southwestern Telegraph & Telephone Company has been compelled to pay those increased prices for material which it has been purchasing, that Mr. Howard has been asking me about. I can't tell you what part of the increased prices is due to the war and what part formally would have taken place had there been no war. There has been a steady upward increase in prices for a great many years, even prior to the beginning of the war. Prices of material fluctuate like the prices of stock and bonds, the price of copper is one material which fluctuates greatly. Other material the prices do not fluctuate to so great an extent.

A circumstance of the kind Counsel has asked me about, a coal strike does not have any material effect upon the prices of material of this kind. It would be reflected at a much later date. The manufacturers of central office equipment purchase very large quantities of raw material in advance and they are given information about what quantity, or the different types of equipment that will be required in the future. The telephone company prepares a year, or eighteen months in advance, and sometimes three years in advance, their estimate of material required so as to permit the manufacturer to secure the raw material and to manufacture the apparatus and equipment. My understanding is that that coal strike has been settled. The price of Central office equipment has not gone down since the coal strike was settled. As I have here-

tofore testified there has been a constant upward increase in general in wages. That affects the cost of material in that approximately 70% of the total cost of the equipment apparatus material used in a telephone plant is manufactured, and the rate of pay of labor has a great effect upon the prices of that material, greater effect than any other one thing. In other words, if you purchase a switch-board costing \$100,000, say \$70,000 of that price fixed by the Manufacturer would be due to the labor, or the cost of the labor involved in the construction of that particular board, and \$30,000 of it would be represented by the material which went to make up that particular switch-board, the raw material. Therefore it is a fact that this constant up-ward increase in salaries is bound to influence to a great extent the price of these materials. I have not heard of any general reduction in the salaries of employees throughout the United States in the last six months or within the last four or five years. I have heard of many increases but no reductions, and they are still clamoring for more. This Plaintiff does not know of any way of reducing the salaries of its employees. In my twenty years' connection with the Telephone Company I have never known of any rates of pay being reduced after they had been established. Counsel has asked me if I was so familiar with the prices of materials at the time additions were made to our plant that I could figure out by years  
2571 what the average cost of our plant was. If I made such a computation it would not give me the cost of reproducing this exchange at the present time. I started out on this to make an estimate of what it would cost to reproduce the Telephone Plant in Houston at the present time, and so far as this part of my testimony is concerned I am not considering the original cost. As I testified previously I came to Houston about the year 1905 to do some field work here and at that time there was some 10 or 12 subscribers here.

Mr. J. D. Frank: According to Exhibit No. 10 put in by the witness Mr. A. E. Scott, there were something like 4,569 subscribers in Houston at that time. That is for 1904. The figures for 1905 are 5,343 subscribers, and according to the books of the company at that time the cost of the plant which had been placed up to that time was something like \$614,000.00 in round numbers. Then there has been a considerable portion of this plant added since that time, hasn't there.

Mr. Hoag: Yes, sir.

I have been more or less familiar with the prices of material during that time. In making a study of what prices have been during the last few years I have considered some seven and one half million  
2572 dollars' worth of work, about two and one half million dollars' worth of which was here in Houston. In arriving at my unit prices, I made a study of these prices which have prevailed in the last few years. I considered the material prices for several years, and the labor costs for several years. I made a study of the present day prices of materials and the present day costs of labor and considering those facts together I have come to my conclusion as to what prices will probably prevail in the future.

In 1905, according to the exhibit referred to a while ago, there were something like five thousand telephones in Houston, and at the present time there are approximately 27,000 telephones in Houston; it has multiplied more than five times during that length of time.

Cross-examination.

(Questions by Mr. Howard:)

It is generally admitted that the more subscribers you have the more expensive it is to furnish service per telephone. Those improvements in the way of conduits whereby we carried so many lines and other improvements tend to minimize that difference in cost. That increasing cost as the plant grows up, and the number of people served, would be much more noticeable if you would have to string the lines on poles the way we used to do, or when we had a little cable that would carry only 40 or 50 pairs of wire.  
2573 As each telephone was added the increased cost was much more noticeable than now when we handle them by the improved conduits.

Redirect examination.

(Questions by Mr. Frank:)

The cost of additional construction is not the only thing that enters into it. As the number of subscribers increase, the cost of construction to reach them also increases. In a small exchange serving probably 500 subscribers the cost might be \$75.00 per station, whereas some of the larger exchanges, such as Houston, might be \$250.00 or \$300.00 per station, or even in excess of that. As the number of subscribers increases the value of the service to each particular subscriber increases due to the fact that he can reach more subscribers, and the expense of handing the increased number of calls also increases.

Cross-examination.

(Questions by Mr. Howard:)

That expense per subscriber depends largely upon how densely the community is settled, it depends on many different  
2574 things. It depends upon the area covered, actual construction cost, the labor cost, and many other things. You pay less for labor in the small towns than you do in the large towns.  
2575 I have prepared an appraisal of the property constituting the Houston telephone plant, based on my inventory, and in preparing that appraisal, the quantities of property as shown by the inventory were used, and to those quantities were applied the unit costs and material prices, as shown by Exhibit 17, which is the material prices and unit cost exhibit. In the case of the land, estimates

as to the reproduction cost of the land were obtained from Mr. George L. Wilson, a Houston real estate man, and his figures were used. In the case of the building estimates, as to the reproduction cost of the buildings we obtained from contractors and architects in Houston, and those figures applied. In the case of Central office equipment, the prevailing equipment prices as of October 1st, 1919, which in effect are 1918-1919 prices, were used, and the contract prices covering the installation of that equipment for the same period, that is, 1918-1919 were applied to cover the cost of installing. For furniture and fixtures, the costs of that equipment, as shown by the company's records were used. That was done in that we would have difficulty in securing present day prices, and we desired to be conservative. The same things applies to the tools and store equipment, and to the stable and garage equipment.

I now desire to introduce in evidence my appraisal and I will mark it Exhibit No. 18.

(Thereupon said exhibit was received in evidence, and marked Plaintiff's Exhibit No. 18, and said Plaintiff's Exhibit No. 18 2576 is transmitted herewith in Exhibit File.)

That is the appraisal prepared by me.

GEORGE L. WILSON, a witness for the complainant, was sworn and testified as follows:

Direct examination:

My name is George L. Wilson. I have lived in Houston since June 1st 1914, and have been engaged in the real estate business, buying and selling property and making loans on real estate. It has been my exclusive occupation. As to my qualifications that enable me to judge as to the value of real estate in Houston, I may state that real estate has been my sole occupation all my life. I was born and brought up, you might say, in a real estate office, in my father's office at Joliet, Illinois, and I operated there and at Chicago, and while in Chicago on two or three different occasions I have been appointed by different courts to appraise property for receiverships, and cases of litigation. I do not recall now what courts they were.

2577 It has been several years ago, but the most of the property was located on the south side of Chicago, and since coming to Houston I have been following real estate and loan business, and I have been called on by private investors in several instances to appraise real estate for loans, and in one instance I was called on as a witness, expert witness, but never was put on the stand in that particular suit. That was the only suit I was ever called on here Houston.

I have a real estate office here in Houston, located at 617 Union National Bank Building, and have had that office ever since I came to Houston in 1914. I haven't had that particular office, but have been in the same building ever since then and operated in real estate here in Houston since that time, 1914.



I am familiar with the property which the telephone company owns on Fannin street, between McGowen and Dennis. It is described as Lot 8 in Block 3, 62½ feet by 100 feet on the east side of Fannin street, between McGowen and Dennis, and is known as the Hadley Central Office property. I am familiar with that piece of property. I appraised that piece of real estate, the 62½ feet by 100 feet, east side of Fannin, south of McGowen at \$4,000, or \$64 a front foot. I am familiar with the values of property in the vicinity where this land is located. I arrived at this value on a basis of a sale in that community. Further down the street, about, I would say 250 or 300 feet to the south, Mr. Paul sold to Henry Cook 37½ feet by 100 feet—

2578 Mr. Howard: I don't think we will contest that value.

Mr. Duls: You admit that value is correct?

Mr. Howard: Yes, sir, I am willing to admit that.

I am familiar with the land on which part of the Hadley Central Office building is situated, described as Lot 12 Block 7, 50 x 125 feet deep on the north side of Dennis, 100 feet east of Fannin street.

Mr. Howard: Where is it located, Mr. Duls?

Mr. Duls: If you will turn to page 18 of that appraisal, Mr. Howard. It is located on Dennis, between Fannin and San Jacinto.

I placed a value on that of \$3,200. I arrived at it on the basis of it being 25% deeper than the lot on Fannin Street, and in my opinion is only worth about 75% of the Fannin Street property.

Mr. Howard: \$3,200.00?

Mr. Wilson: Yes, sir.

Mr. Howard: We will not contest that either, at this time the fair market value.

I am acquainted with the property on which the Taylor Central Office building is located in Houston Heights, they being described as lots 11 and 12 in Block 247, it is 100 x 132 feet.

2579 Mr. Howard: Located where?

Mr. Duls: On the northwest corner of Harvard and 8th streets in Houston Heights.

I have placed a figure of \$1,250.00 as the fair market value of the corner lot and \$1,000.00 the inside lot or \$2,250.00 for the gross value.

Mr. Howard: We do not contest that either.

Mr. Duls: Counsel admits that that is the correct fair market value of that property.

I am familiar with the property which the company has purchased for the purpose of erecting the Harrisburg Central Office. That is the located on the northeast corner of Harrisburg Boulevard and Yoakum streets. I am familiar with that, known as lots 11 and 12 and 13 in Block 23, 150 by 150 feet deep. I placed a value on the



corner lot of \$1,100.00, and each of the two inside lots at \$850.00, or a total of \$2,800.00 for the three lots.

Mr. Howard: I don't know anything about that, but I expect it is fair.

I based that on a sale across the way. A corner lot across the street sold for \$900.00, and that lot sets diagonally Harrisburg, it comes into the Boulevard at an angle and the purchaser of that lot in order to erect a building on his lot has got to face it diagonally with the street, and that sale was made for \$900.00, and the property of the telephone company is across the street from 2580 it, and has south and east exposure, and you can erect your building square with the world as I term it, and the result is I attached a value of \$1,100.00 for the corner lot, in other words \$200.00 more than the lot across the street sold for. I based all my estimates on sales in the community as bearly as I could find any. That is one method by which I ordinarily determine the value of property. Real estate men use that method of determining values practically exclusively, although in some instances they use the revenue, but on land without improvements they consider sales in the community as a fair criterion on what a piece of property is worth.

I am acquainted with the property owned by the telephone company on the northeast corner of Texas and Robert street-, 125 by 100. I placed a value on that property, I believe of \$4,500.00. There were no sales in that community by which I could be guided, and I had to exercise my own judgment as to what I thought I could sell it for. I believe I could sell it for \$4,500 for this reason, that it has a value, a commercial value in addition, by reason of being located on the railroad tracks. I would place a value of \$3,000.00 if the property was not adjoining the railroad right of way, and I add 50% increase on that by reason of its locality, merchantability. In other words a great number of persons want to buy a piece of property adjoining a railroad because they want to use it for warehouses, and it is close to the tracks. The fact of its being close to the railroad tracks gives it added value. That property is known as Lots 1 and 2 and a half of lot 12 in Block 650.

2581 I am familiar with the piece of land which the telephone company owns, located on the northwest corner of Capital and San Jacinto Streets, 125 by 125. It is known as lots 1 and 2 and a half of lot 3 and one half of lot 11 in block 70. I place a value of \$198,437.50 on that land. I arrive at that figure in this way: On December 31st 1918 the Flake estate sold Edward Larendon the corner of Texas and San Jacinto for \$50,000. The size of that lot is 50 by 100. Your property has 25% greater depth, and I also added 25% by reason of its location. Corner property usually carries in the eyes of the investor about 25 to 33% more than an inside lot value, but of course both of these being corner lots, each of them has the same corner influence. I simply used 25% additional on account of your lots being 125 feet deep as against the Larendon lot being 100 feet deep, and in addition to that I added 25% additional value

by reason of its location. I value the corner of Capitol and San Jacinto 25% more, square foot by square foot than I do the corner of Texas and San Jacinto, by reason of the influence of the Episcopal Church and the fire station across the way. A church or a fire station in a business section has a very decided influence on its value. You have got to carry the shopping element beyond a long stretch of vacant property, and unless you have got a very active site, unless you have something to draw them to that locality, that influence is felt. On the other hand I arrived at that value from a different source. About two years ago I was appointed by J. H. Landgreen of Galveston, together with A. B. Kelley and Louis Lobit to value the property directly across from the telephone company 46 by 2582 100 fronting on Capitol, and at that time belonging to Mr. Bailey. That was on the south side of the street and faces north, directly opposite the telephone company's property on Capitol. We placed a value on that of \$1,000.00 a front foot, and that was 100 foot deep, and an additional 25% to corner influence, plus 25% from the fact of the company's property being 25 feet deeper, and it comes out identical from both those sources. So that I was confirmed in my judgment as to the fair market value.

My appraisal of this land is made on the basis of it being the land alone, and without consideration of the improvement on the land. I did not take into consideration the value of the improvements at all, but merely valued the naked land as it exists, as land.

In stating my qualifications I testified that I was also in the loan business, loaning money on real estate. Loans are made on business property in Houston at usually around 6%; that is well located business property. You might say down-town property. That is the standard universal rate, 6%.

With reference to loaning money on residence property in Houston, it would depend entirely upon the locality. On south end property where it is usual to loan about 50% on the property, you can reasonably figure on 7%. In the Heights and the Fifth ward you would have to figure 8%.

2583 The rate is entirely based on the merchantability of the property. How much the man, in the event he had to acquire the property under foreclosure, what his probable chance of selling it immediately and getting his money out of it. I don't think I could place a loan on residence property for less than 7 per cent on a basis of 50% of its value. And these loans I have been speaking about would be first-lien loans absolutely.

Now, with reference to farm property. I am making one loan now of about \$30,000.00 out near Genoa on the basis of seven per cent. Ordinarily farm property runs between seven and eight per cent. I made one loan of one hundred thousand dollars near Webster in February on the basis of eight per cent. That was February 1919.

On unimproved farm property the rate is eight per cent on that, but it all depends entirely on the location. The rate on cattle ranch property in Harris County wouldn't be any different, it would be around eight per cent. The Federal Farm Loan Bank, however, is making on improved land loans on the basis of five and one half

per cent, forty years' time, but the private investor never would agree to make such a rate. I never have been able to make a rate like that, never have been able to get the money at that rate. The investor will not loan his money out at that low rate. In one instance, I had a client, Mr. John Kaillard of Goose Creek, he makes all of his loans at seven per cent. I made a loan for him of ten thousand

dollars on the 23rd of December at eight per cent, but on 2584 South end property he has been making recently a seven per cent rate. He used to make it at 6, but he said at the purchasing power of the interest on the basis of six per cent he couldn't get along with it, and he had to raise the rate one per cent.

I do not make any loans on oil property, as such. I have made a loan on prospective possible oil property at Goose Creek. I made one loan down there for six months, on Mr. Holliday's land—

Mr. Howard: I don't think this record should be encumbered with instances of individual loans Mr. Wilson has made. He has already stated the general rate from a good many stand points.

The risk usually determines the rate of which a loan on property is made. What they call the moral hazard, the personal element, and then again the possibility of selling it in the event the lender has to take it in. In other words the merchantability of the property, and the accessibility of the property. You take property away from transportation and away from roads, it will naturally take a higher rate than property that is readily accessible. The risk is decidedly an important element.

I have been speaking of first-lien loans. Second lien loans, the rate that will apply to those loans depends largely upon the amount of underlying first liens. If you have got a loan of fifty or sixty 2585 per cent on first mortgage, your second loan is going to cost you a lot of money. In but one instance I have confined myself exclusively to first lien loans? By the term "A whole lot of money" I mean that probably a short time loan will draw eight per cent, and as high as ten or fifteen per cent.

Cross-examination.

(Questions by Mr. Howard:)

In the pawn shops they sometimes charge as high as ten per cent a month.

Redirect examination.

(Questions by Mr. Duls:)

He doesn't have any land as security, all chattels.

S. B. HOUX, a witness for the complainant, was sworn and testified as follows:

Direct examination.

(Questions by Mr. Duls:)

My name is S. B. Houx, and I live in Houston, Texas and have lived here eleven years.

I am a general contractor, connected with the American 2586 Construction Company, in Houston, I am the president of that concern. My company has occasion to figure on plans and specifications for buildings and contract work, and while I do not make the estimate on the contract jobs, I always pass on the final figures. The clerks under me made up the figures and submit them to me, and I pass on them. The estimators take off the quantities and I do all the pricing, practically all of that, and my company bids on the figures that I make. In other words they bet their money on my judgment.

Mr. Howard: We admit he is competent and qualified to estimate buildings, and is a competent contractor.

I am familiar with the telephone building owned by the Southwestern Telegraph & Telephone Company on the corner of San Jacinto and Capitol, and I have figured what it would cost to reproduce that building. I estimated that I could reproduce that building for \$294,560.00. I made that estimate on September 24th, 1919. I used the prices of labor and material current at that time, September 24th, 1919, and arrived at a figure of \$294,560.00. At the time that estimate was made I had before me the estimate that was made at the time the contract for the building was let, the estimate of the quantities of materials. We did not need the plans and specifications. We had exact estimates of the quantities of material going into the job. We used our estimate sheets on the quantities that we used in making the bid at that time, and applied the present day prices of labor and material to those quantities. In making my estimate I went at it in the same way I would have gone at it if I was going to bid on the job of constructing that property. I 2587 went about the work in the same way,—the same way in which we submitted our original bid. I would not take the job of constructing that building today at the prices I used in making my estimate, because prices have advanced since that estimate was made. When I say prices have advanced I mean the prices of all material and labor.

Mr. Howard: Since September 24th, 1919?

Mr. Houx: Yes sir.

I have examined this building over here and find that it is good construction and found it to be in good condition. It has been well maintained.

These papers I have before me are the estimates of these quantities of material and cost of this building, and I will preserve them so

they can be examined at any time. The estimates have been preserved since the bid was made in 1911.

Cross-examination.

(Questions by Mr. Howard:)

I did not construct that building, and I don't know what it cost, but I know what the low bid was. The low bid was \$149,900.00. The building was constructed by the Fred A. Jones Company. I practically doubled that bid in September last year.

Redirect examination.

(Questions by Mr. Duls:)

2588 I don't mean to testify that I know what it costs to build that building, I didn't say I knew that. I said I knew what the low bid was.

R. L. JACOB, a witness for the Complainant, was sworn and testified as follows:

Direct examination.

Questions by Mr. Duls:

My name is R. L. Jacobe and I have lived in Houston about 25 years. I have been engaged in the electrical business about 20 years. I am in business for myself, a member of Jacobe Bros. Electric Company, a firm composed of myself and my brother. That has been my principal occupation since my stay in Houston, about 20 years, that is, a contracting and working for electrical business.

As to my qualifications for estimating contracts for wiring and electrical work, well, I have done everything in electrical contracting, from office boy to estimator and manager of a contracting company. As estimator and manager I have estimated and superintended the work of most of the large buildings in Houston. That covers it I guess. For instance, the Carter Building, the Southern Pacific office building, the post office building, the Houston Belt & Terminal Company, nine-tenths of the schools of Houston. I estimated and superintended and contracted for the main building of the telephone company, and Hadley Exchange, your  
2589 Preston Exchange, and your Hadley Exchange, and the Exchange at the Heights, the Taylor Exchange.

I have made an estimate of what it would cost to reproduce the wiring work in those buildings. I made an estimate on September 24th, 1919, and the estimate on the Preston Building was \$5,570.00. The estimate on the Hadley building, on the same date, was \$1,624.00. and on the Taylor building \$800.00. In making my estimate I took the estimate that I had made, my original estimate on the plans and specifications and took the prices of labor and material as

of that date, September 24th, 1919, and added that to my original figures, and that is the basis of my estimate. These figures that I have testified to represented my best judgment at that time, based on my experience and knowledge of the business as to what it would cost to reproduce the wiring in all three of those buildings at that time. I would not take the job today of doing the wiring in those three buildings at the prices that I estimated on the 24th of September. I would not do it because of the advance of prices of material and labor. They have advanced since that time, but I hope they are not going to continue.

Cross-examination.

(Questions by Mr. Howard:)

I wired those buildings when they were constructed but I do not recall what the charge for the wiring was at that time, but I would judge that they were approximately a third less than the figures that

I gave you, just about a third. I think as close as I can  
2590 recollect it, that is about the way it worked out at that time.

In my work of estimating I attempt to keep my unit prices up daily, don't you see, with the market, both labor and material. At the time I made this estimate I used the prices that were in effect that date. That would be the scale as fixed by the Electrical Union as far as the labor is concerned. The labor scale then was \$7.00 a day. I don't remember when these buildings were built here. The labor scale today is \$8.00 a day.

Mr. DUDLEY O. LANE, a witness for the complainant, was sworn and testified as follows:

Direct examination.

Questions by Mr. Duls:

My name is Dudley O. Lane, and I have lived in Houston about four years and during that time I have been engaged in the plumbing and heating business exclusively. I have been doing the estimating for plumbing and heating institutions for the last 35 years. I have done some work on school buildings here, and some of the large apartment houses here, that is, new work on them, and outside of Houston I have done a good deal of large work. I am connected with the firm of Lane and Clifton, I am one of the owners or proprietors.

I made an estimate of what it would cost to reproduce the heating and plumbing in the Taylor Central Office building of the  
2591 telephone company, and I have those figures here. The cost of heating was \$2,399.91, and the cost to reproduce the plumbing in that same building was \$1,717.34, according to my estimates. That is my best judgment based on my knowledge and experience of the business of what it would cost to reproduce the heating and plumbing in that building.



## Cross-examination.

## Questions by Mr. Howard:

I think I made that estimate in the latter part of September. I have been in Houston for four years. I don't know whether the Taylor building was built before or after I came here, but I have known of it for some time. I had occasion to go over there two or three times in the last two or three years so therefore it has been three years or more to my knowledge.

There has been a very marked advance in prices of material, both material and labor, in construction work since 1914. In plumbing work I should say it has about doubled. That is, in materials. Labor I think we were paying about \$6.00 a day for plumbers' labor, that is, 1914, and about \$9.00 per day today which is about a 50% advance in labor. About 100% in materials, and 50% for labor, in some instances. The same thing applies to heating, about the same thing, possibly.

## Redirect examination.

## Questions by Mr. Duls:

2592 I would not take the job of installing the heating and plumbing in that building today at the prices I figured in that estimate because of the advance in prices of materials. In some instances prices have advanced at least 20% since I made that estimate. Labor has not advanced since last September.

B. W. WARREN, a witness for the complainant, was sworn and testified as follows:

## Direct examination.

## Questions by Mr. Duls:

My name is B. W. Warren, and I have lived in Houston about 25 years. During that time I have been engaged in the contracting business, plumbing and heating, and that is my occupation now. I am connected with the firm of Warren & Company. I own that company. With reference to my qualification for doing contracting work involving heating and plumbing and for arriving at the correct amount of the cost of that work, well, I have always done all the buying and estimating of all the work up until last month. I have got a young man I am breaking in as an estimator, but I have always done it myself, until it got so it got too much that I can't do it all. I take the jobs on my bid, and we try to arrive at a cost plus a percent that we work on. We keep a record cost of  
2593 the different jobs we do, until the jobs are finished, usually, to see what we have done. I did the plumbing and heating in the Post Office building, the Court House, the Carter Building, Rice Hotel, S. P. Hospital, and I don't know, two or three build-



ings at Rice Institute, I believe. I also did the work in the Hadley and Preston Exchange Building. I have made an estimate of what it would — to reproduce the heating and plumbing in those two buildings. I made that estimate last year, some time, I think it was in September, I am sure it was. I made it on September 20th, 1919. My estimate to reproduce the heating in the Preston Building was \$22,176.00, and to reproduce the plumbing as it is in that building my estimate was \$13,293.45. The Hadley building proper, that was estimated at \$10,424.10. That includes plumbing and heating in that building.

Mr. Howard: Did your estimate set up by Mr. Houx include these items?

Mr. Duls: No, it did not. I should have had him testify to that, but I didn't.

I have not got the details of my working sheets on this work, we destroy them after we fill a book, you know. Sometimes we carry them a while, and then again we clean up, we destroy them. Those figures represent my best judgment as to what it would cost to reproduce the heating and plumbing in those buildings.

2594 I would not take the job at the cost I have estimated to reproduce it, I could not do it, because there have been too many advances since then in material; in fact all material except pipe line, that is wrought iron pipe. All other pipe and fixtures have advanced, well, as high as 25%, labor and everything else. I think we went to paying \$9.00 per day for labor, but I don't know whether there has been an advance in that or not, but I am sure there have been advances in the material prices. I don't remember when the labor advance was, but I think it was last August.

#### Cross-examination.

#### Questions by Mr. Howard:

I put the plumbing and heating in this building when it was originally constructed, but I do not remember what I charged for it. I charged much less than the estimate I made to put it in as of September, but I could not approximate the difference; a great deal of difference though. There's 100 to 150 per cent on some materials. Radiation for instance advanced in the six months twice 7½ per cent. Some material I put as high as 50%. Taking practically all the material, taking it all together and averaging it, it would average around 100%, I believe. In 1914 we were paying \$6.00 a day then, and we are paying now \$9.00, an advance of 50%. The cost estimate that I made was based upon September prices.

2595 ALBERT BARING, a witness for the complainant, was sworn and testified as follows:

Direct examination.

Questions by Mr. Duls:

My name is Albert Baring. I have lived in Houston since 1901, and I have been in the general contracting business during that time. I have been an independent contractor, doing jobs on my own initiative and own responsibility.

As to my qualifications that enable me to judge the cost of constructing buildings, well, I have built several buildings here in the town. I built the City Hall Annex, Walker Smith's warehouse down here, I am building the Pittsburg Plate Glass Company's building now, the Hirsch Apartment and numerous other buildings here in town I have erected. I have made estimates of what it would cost to construct these buildings and then I have put in my bid for them where my bid has been accepted and constructed them.

I have made an estimate of what it would cost to reconstruct the Hadley Building of the telephone company, and also the Taylor Building. The figures that I have arrived at does not include any plumbing or heating or wiring or anything of that sort. I was requested by the architect to make an estimate of those buildings and leave out the heating, plumbing and wiring. For the Hadley Building I arrived at the figure of \$73,301.00, and for the Taylor

2596 Building \$29,944.00, those figures represent my best judgment based on my knowledge and experience of the business as to what it would cost to reproduce those buildings at that time. I think it was in November somewhere, November 14th, that I made my estimate. I would not undertake to construct those buildings at the prices I estimated it would cost to reconstruct them in November 1919 unless you would add the difference in the material and the labor, whatever it has advanced since that time. Labor and material have advanced. For instance: brick masons, I am notified now, that on the first of April, they are going out for \$11.00 a day. We are paying them \$9.00 now. I do not remember what we were paying at the time I made my estimate, but they want \$11.00 from the 1st of April on. Common labor I paid at that time \$3.60 a day. The carpenters expect to go out for a dollar or two dollars more, I don't know how much it will be. The painters are out now for a dollar raise. Material prices they raise any time. You can't buy nothing unless you get it right now. If they take the order they will tell you they take the order and see if they can give it to you for that price, and sometimes they will keep it for thirty days, and then they will write you and tell you they can't furnish it at that price. In making my estimate I took into consideration the quality of material that is now in the building.

## Cross-examination.

## Questions by Mr. Howard:

I am building a building now which I took under competitive bids three months ago. Right now, I am not figuring to take contracts. Everything I take will be on a percentage basis now.

2597 We have gotten to the point now where contractors can't take it any more upon a certain specific price. I did not construct either of these buildings originallu, but I happen to know when they were constructed. I was figuring to get the Hadley Exchange because I was building the Hirsch Apartments within a block, out on McGowan Street, and William Miller & Son beat me \$500 on the contract. I bid on it but I was not the lowest bidder. That was \$28,000.00 without the addition. That addition was built later. In making this estimate here I went ahead and took off all my quantities over again and took the building as a whole. The addition was not quite 100 per cent of the Hadley Exchange. I think my bid originally on the Hadley Exchange proper, without the addition, was \$28,000.00, and the addition I wanted \$14,000.00 for it; would have been \$42,000.00, and I put the reconstruction of the whole thing now at \$73,000.00, that was in November; it is not quite 100 per cent, but it is about 100 per cent now. And it has got to the point now that if I valued these properties in April it would still be higher if we have to pay the increase in cost of materials and labor. Down here on the Pittsburg building fellows gave me prices on my gravel at \$3.70; and when it come to delivering it they would not deliver any, and I had to go out and pay \$5.00 a yard for it. The cost of constructing this building is pretty nearly double of what the cost was in 1914. The man that constructed the building beat me about \$500.

## Redirect examination.

## Questions by Mr. Duls:

2598 Those prices that I have testified about are prices that I would have to pay for materials today, prices that I would have to pay if I was going to reproduce the building. I do not look for any decrease in the prices of labor any time soon because I think it is an unknown thing for labor to go down; it never has gone down. Of course I don't know what it will do between now and April. I have never known of labor prices decreasing any considerable extent, not since I have been in business. There was no work done on any of these buildings in 1919, on the Hadley and Taylor building, there was no work actually done, the building was built and had been built for several years. There was only one little addition made to it, and I believe I done that myself, I believe in 1915 closing in that little outside stairway, amounted to \$150.00; that was the only addition I know of.

Mr. Duls: Now, Your Honor, there is one other witness we want to use, Mr. Perkins of the Otis Elevator Company. We want to get him to testify what it would cost to reproduce the elevators in the Preston Building.

Mr. J. D. Frank: Mr. Hoag has included his estimate in his appraisal.

Mr. Howard: That is all right, then. Introduce the estimate. Our main contention is it didn't cost you that. You will admit it is practically 100 per cent higher than it cost you, will you?

2599 Mr. Duls: No, I don't know what it costs.

Mr. Howard: Well, whatever it is, I don't care anything about that.

Mr. Duls: This is a letter that was written by Mr. Perkins to the Telephone Company in response to a request about what it would cost to reproduce these elevators. He states in this letter it costs practically \$19,000.00. Do you want us to have Mr. Perkins?

Mr. Howard: No sir.

Mr. Duls: I want the record to show that Counsel does not object to this testimony.

Mr. Howard: Well, we will agree that if you had brought him up here and had him duly sworn, he would swear to that.

Mr. Duls: You agree that he would have sworn that it would have cost \$19,000.00 to reproduce the elevators in the Preston Building.

Mr. Howard: I don't know whether he estimated it correctly or not, but I admit he was in that business and has made the estimates just as these other men have.

F. M. HOAG, a witness for the complainant, was recalled for further examination and testified as follows:

2600 Direct examination.

Questions by Mr. J. D. Frank:

Page 1 of my appraisal shows the summary of the appraisal. It shows the reproduction cost of the various items entering into the telephone plant in Houston, Item 1 is "Land." I have used \$215,187.00 as the figure which would be the cost of reproducing that land at the present time. The details of that appear on page 10 of the appraisal. That is Mr. George L. Wilson's estimate of the reproduction cost of the land and I have adopted the valuations placed on the land by him. In my judgment it is the correct valuation of the land at the present time, and is a very conservative estimate. That is for all the land used and useful in the Houston Exchange, and is the value of the land only, without the improvements thereon.

The second item in my appraisal is item No. 2, on page 1 "Buildings." I have found the cost of reproducing the buildings owned by the company of which are used and useful in the operation of the Houston Exchange to be \$476,550.00. That is the total of the estimates as prepared by these contractors in Houston as to the reproduction cost. A summary of that is shown on page 23 of the appraisal. I should like to add that the last three items on that

page, that is, items D, E, and F are estimated costs of certain small buildings which we have in Houston, Item D, being our garage building on the Preston lot, Item E being a garage and storeroom on the rear of the Taylor lot, and Item F being a small frame building on the Texas Avenue warehouse lot. \$1,000.00 is the estimate I made of the cost of reproducing the garage buildings on the 2601 Preston lots,—that is our estimate of the cost of reproducing that building at the present time. That estimate is based upon information furnished by the local telephone people in Houston. That garage building has been constructed piece-meal, and it was rather difficult to get at anything like an exact estimate of reproduction cost. I should say that the figure which I have adopted is a low figure, it is a low figure I should say, off-hand.

The next item I have here is the one-story frame building on the Taylor Central Office lot, used as a garage and storeroom, and I figure the cost of reproducing that at the present time would be \$500.00. That estimate was made in like manner as was the estimate covering the garage and is probably low.

The next building is the frame building on the warehouse lots \$250.00, that estimate was made in the same way, and is perhaps somewhat lower.

Now, as to the other buildings, the Preston Central office building, the Hadley Central office building, and the Taylor Central office building, I have adopted the estimates made by these various contractors. The Preston building was constructed about the year 1912, but I do not know the exact date. The original Hadley Central office building was constructed about 1910, and the addition was built about 1914, or the early part of 1915. The Taylor Central office building was constructed either the latter part of 1913 or the early part of 1914. That is, it was completed at that time.

2602 I am familiar with other central office telephone buildings throughout the State of Texas, and have prepared an exhibit showing the cost of other buildings throughout the State in comparison with the cost of these buildings in Houston.

Mr. J. D. Frank: We desire to offer that in evidence as Plaintiff's Exhibit No. 19.

(The paper was thereupon received in evidence and marked Plaintiff's Exhibit No. 19, and said Plaintiff's Exhibit No. 19 is transmitted herewith in Exhibit File.)

Mr. Howard: Now, really what is the materiality of going into the question of the value of your exchange all over the country when you have gotten evidence as to the value of your buildings that you have constructed in this Exchange.

Mr. J. D. Frank: The object of the testimony is for the purpose of showing that the value that has been placed on these buildings is a conservative value. We want to show what it cost in general to construct buildings of this kind, and we think that the evidence is very material, and very relevant in this connection.

Mr. Howard: If your Honor please they have proven not only in a general way, but in a specific way and in some detail the value of

this real estate here. The valuation as they have proved them, have not been attacked, and I think it is very doubtful that they will be, and I suggest that considerable time might be saved by at least withholding the value of these other buildings. I don't apprehend that they will be attacked.

2603 The Master: I regard, Mr. Frank, the statement of counsel as an invitation for me to accept these valuations just as they are put on just at this time.

Mr. J. D. Frank: With that understanding, we are willing to waive this.

The Master: Do I properly understand you?

Mr. Howard: You properly understand me. My proposition is this, that at this time at least there has been no attack made upon what it will cost to reproduce these buildings, if they were to be reproduced now. Of course I will not be understood as saying we are not going to see what these buildings cost, what they cost.

The Master: Oh no, certainly not.

Mr. Howard: I don't imagine that we still attack these values and at any rate it occurs to me that this line of testimony, it would be time enough to enlarge upon this question after we did make some attack, if we do at all, which I do not think we will do. I do not want to be committed to this transaction until we do. They stand in the record now unattacked. If some attack is made upon them—

Mr. J. D. Frank: If Your Honor will permit me to say just one word in answer to that. I don't think Mr. Howard is in a position to attack anything that we are putting in at this time. What we want to do is to establish the value of these various pieces of property, and I think this evidence is certainly very material and very relevant for the purpose of showing that this is the value of the property. Now, if he don't intend to attack anything, why that is a different proposition. I can't tell what he is going to attack when we get through, but it is up to us to introduce our record and introduce our relevant testimony—

2604 Mr. Howard: Not cumulative testimony.

The Master: I think that the evidence would be clearly admissible in the event that there was any controversy as to these facts that are sworn to. That is my idea about it. But, if, on the other hand, they are not contested by the city in any way I feel like while I am not bound by Mr. Hoag's testimony, he being an interested witness, it would be at least strongly persuasive that the facts stated by him are true, and that being true, you have made out as to that a prima facie case.

Mr. Howard: And upon this question it has been sworn to by disinterested witnesses, the values have been fixed by disinterested witnesses.

The Master: Yes.

Mr. Howard: And unless I can attack those values Mr. Frank, which I doubt very much we will be able to do, and which I will say now we have no present intention of doing—

Mr. J. D. Frank: Well, if you have no intention of attacking the values, I admit that the testimony is irrelevant.



2605 Mr. Howard: Well, wait until we do attack them, before piling up testimony on them. That is just in the interest of time.

Mr. J. D. Frank: The thought has just occurred to me that perhaps we would save time in the long run, and that it might facilitate matters for Mr. Howard, if he cross-examined the witness as to these various items of property as they go in. I know that he certainly would be in a better position to cross examine him, and bring out the facts and if Mr. Howard cares to do so, as I finish up each particular item of this property, I would be glad to have him go ahead and cross examine the witness, and then if he wants to make a general cross examination after we get through, he can do so.

Mr. Howard: It suits me all right. I have no cross examination upon the question of land, what it is reasonably worth now, I have no cross-examination because it strikes me that you have gotten it about right, from my best judgment of present prices, so upon the land item I have no cross examination to make.

Mr. J. D. Frank: Well, that will be all of our evidence on the buildings; do you care to cross examine the witness upon that?

Mr. Howard: No, not upon the buildings. They have been proven up. I don't hope to elicit anything on cross-examination.

2606 In this summary of my appraisal I show the cost of reproducing those buildings, and that price in there as the second item on my summary of appraisal is \$476,550.00.

The next item in my summary of appraisal is Item No. 3, the distributing system. I find as the cost of reproducing that particular piece of property, \$2,488,660.00. The details of that are shown on page 38. The first item on page 38 is 3-A, Exchange Pole Lines. On page 39 we show the detail as to the unit cost of material of poles. A 30-foot Class C pole which appears on page 39 is priced at \$8.43 each. By turning to page 17, of Exhibit No. 17, which is the unit cost and material price book, the 30-foot Class C pole is shown on that page, the cost of the pole, the freight and the supply expense, totaling \$8.43. On page 42 of the appraisal, the labor and incidental cost is applied to all poles at an average price of \$4.89 each. That average price is used for the reason that our accounting and reporting is such that it is not possible to differentiate in the cost between the different types and kinds and sizes of poles. Page 23 in the Material Price List and Unit Cost Book shows the detail of the labor and incidental cost which go to make up that \$4.89 unit cost as used. I have taken up one of the items all the way through showing how I applied my material prices and unit costs. That would give you the total cost of the pole in place, and I have treated all the other items of the Distributing System in the same manner as I treated that. On page 42 of my appraisal I show there the total number of poles and the labor cost for those poles, the total number

2607 of poles and the labor and incidental cost has been applied to the total number. There are 17,258 poles and the labor and incidental cost as applied is \$4.89 for each pole. That includes the incidentals. That makes a total figure for the labor and incidentals of \$84,391.62, and I have already explained how I have



applied material price to that. The final total cost of all the poles in place, including the material, the freight, the supply expense, the labor and incidental cost for the 17,258 poles is \$287,130.44. In addition to the \$4.69 labor and incidental cost we have added for poles set in private property \$1.00 each, there being 897 poles on private property. I figure that is what it would cost to set those poles on private property, in excess of the average \$4.89 cost. I also figured that it would cost for setting poles in the cement walk and cribbing poles with concrete.

I have on page 38 a summary of the Distributing System, and that sets out the various items of property entering into the Distributing plant and also sets out the cost of reproducing those various items? I get as a total figure for the cost of reproducing the total distributing plant in the Houston Exchange \$2,488,660.00. It is the third item on page No. 1, the summary sheet of the appraisal.

Mr. D. A. Frank: Do you care to ask him any questions about that, Mr. Howard?

Mr. Howard: No, I think no-. Just a moment, Mr. Frank.

Cross-examination.

2608 Questions by Mr. Howard:

I have a statement taken from our records as to the gross additions made to the Houston Exchange since 1910. The total amount of gross additions to aerial cable, which is a portion of the distributing system is \$518,558.00. The aerial wire, which is another portion of the Distributing System, the gross additions total \$336,750.00. That is since 1910. I cannot give you that as to how much has been added since 1914. It is totalled since 1910, and the totals would have to be worked over to give you the totals since 1914. That can be furnished you at a later period.

Redirect examination.

Questions by Mr. J. D. Frank:

I will furnish that to Mr. Howard.

Mr. Howard: That is all I have to ask him about, except did he testify before as to what prices, how he got these unit prices and cost of materials?

Mr. J. D. Frank: Yes.

Mr. Howard: 1918, was it, the prices that prevailed in 1918 or 1919.

Mr. Hoag: 1918 and 1919, in general.

The next item appearing in the summary of my appraisal is Item No. 4, Central Office Equipment. I estimate the cost of reproducing that part of the property in the Houston plant at \$1,156,480.00. The details of that appear on page 69, that is the Summary of the Central Office Equipment and the details follow on through to page 166.

I will take one particular item to show you how I arrived at the cost of reproducing that part of the property. On pages 70 to 108 of the appraisal is shown the detail as to the quantity of the equipment in the Preston and Capitol switchboards, also the prices of that equipment are shown, and finally on page 108 are shown the other costs, installation costs, etc. which enter into the installing of the equipment in the Central Office. The prices as applied to the detail of the quantities of equipment are 18-19 catalog prices, which prevailed as of October 1st, 1919. On page 108 is shown the cost of installing. The first figure, to the first total figure on page 108 is \$473,664.45. That represents the cost of the material at the factory. The second figure is \$23,209.53. That figure is for special designing and drafting. The reason I have included an item of that kind in estimated cost is because after the telephone company places the order for the equipment with the factory, it is necessary for the factory to do a certain amount of special designing and drafting, in that each telephone building is different, and the equipment has to be designed and constructed for the particular buildings. In other words, we can't just say to the factory, ship us a switch-board down here, we have got to give them an idea of what we want, and special designing and drafting has to be done for the purpose of supplying that equipment,—or making that equipment fit in the particular telephone building, in which it is to be installed, yes sir. That doesn't mean special designing and drafting of the material itself. It means the designing and drafting necessary to make that equipment fit into the building in which it is to be installed.

I get at the total material cost, that is, the material with the special designing and drafting added \$496,873.98. The next figure is freight and cartage in the amount of \$17,390.56, which covers the freight and cartage from the factory to Houston, and to the Central Office building. The next figure is \$237,008.42, which is the installation cost, that is, the labor, traveling expense, board and lodging and other incidental expense incurred in the installing of the equipment in the Central offices.

The foregoing items, that is, the items of special designing and drafting, freight and cartage and installation costs are contract costs and with the prevailing contract prices for this kind of work for 1918 and 1919.

The next item is the telephone company labor and that amounts to \$1,748.25, and covers the cost of certain work which the telephone company had to do, the running of jumpers, and the main distributing frame and similar small work that averages about 15 cents per line, that is, in addition to the contract cost.

I get at the total cost of the Preston Unit \$752,985.21. The other Central Office units have been built up in like manner. 2611 The summary of central office equipment is on page 69 of my appraisal. I get as the total cost of reproducing this part of the property \$1,156,480.49, which is the fourth item on page 1 of the summary sheet of the appraisal.

## Cross-examination.

## Questions by Mr. Howard:

This special designing and drafting item is done by the factory.

Mr. Howard: You get at this cost, you, for instance on page 108 here, where you have the Preston Central office equipment, you detail the labor and material per unit, and then total it, and you get a total of \$473,664.45, but that is merely for constructing the equipment, and this special designing, you say, is made for the purpose of making the equipment for the exchange building?

Mr. Hoag: It is a factory expense, yes sir, which is incurred in connection with all central office equipment installations. In getting the equipment ready for installation, after the order is placed, then the factory have to do that special designing and drafting. The freight and cartage is based on actual contract cost for the years 1918 and '19, what it would cost to handle that much equipment. We handled equipment in 1919, we are doing it continually. That is we handled some in 1919, not anything like this volume of cartage. These prices were based on several hundred thousand dollars worth of work during the years 1918 and '19.

We did enough to know what the actual charges were per 2612 certain units and then applied it to the number of units that we have in this entire equipment. That is the way we arrived at it.

Mr. Howard: This installation charge \$237,008.42, it is nearly half, just about half—

Mr. D. A. Frank: Not quite a third.

Mr. Howard: About half the cost of the material, is it?

Mr. D. A. Frank: Yes, it is about a third of the total cost.

The Western Electric Company in general does that work for us on all Western electric equipment. That is labor and the incidental expense that goes with it, the bringing of the installation crews to the jobs, the railroad fare, some of the board and lodging, of course, and the installation, after this equipment is manufactured, and shipped and ready to install, the installation charges are about 50% of the total material charges. That is in the case of central office equipment, and is occasioned by the fact that it requires skilled labor and is very difficult to install. In the Houston Preston central office equipment, I should estimate that there are over a million soldered connections that have to be made by this installation crew after the equipment has been placed in the central office building. It has to be assembled, all of the cables have to be laid in those switch-boards. They all have to be laid in individually, laced together, formed up.

I made a study of the prices and not only paid 2613 attention to the prices for 1919, but I considered prices for several years. The two major elements that enter into all of this construction is labor and material. I have not made any comparison with reference to how much material charges compare with those in 1914, and do not know,—I have not made any

comparison. The material used in central office equipment is detailed on Page 7,—starting on page 7, but the principal material used in central office equipment is the switchboard cable, probably constitutes 35% of the total cost of the material. I cannot answer off-hand how much cable has advanced since 1914, and could not even approximate it, but would have to look it up.

The last item here, Telephone Company labor, is labor performed by the Telephone Company after the equipment arrives here, and during the process of installation. After the Western Electric Company has installed the equipment, after they have completed their job, then before that equipment can be actually placed in service it is necessary for the telephone company to do a certain amount of work. One thing the Telephone Company does before accepting the job is to make a complete test of all that equipment.

I don't know anything about where the money comes from to pay for anything, and cannot tell where the money came from that paid this item of \$1,748.00. Where the money comes from means nothing in connection with the cost.

Mr. Howard: But it would mean considerable, though in 2614 the final value of the property as you carried it out and set it up here for the purpose of making a rate, would it not?

Mr. Hoag: As I understand you, what you really mean to question is whether or no it is a capital charge or operating charge, not where the money comes from.

Mr. Howard: That amounts to the same thing, if the money comes out of operating expenses, it would not be a capital charge.

Mr. Hoag: But, it just reverses, it is a question of what you charge the money to, not where the money comes from. In a case of this kind the money is charged to the capital account, that is, to the cost of that equipment. Now, after that equipment is installed, and is in service then we have a gang to maintain it, clear trouble as it develops from day to day, repair switch-board cords, and do other similar repair work; that expense is charged to operation, that is, to the maintenance account, and is not charged to the capital account. This expense of Telephone Company labor would be charged to the 17-C account, which is the central office equipment capital account, in that the expense is incurred in connection with the construction of this equipment. These books are kept in accordance with the Interstate Commerce Commission rules. Those rules do not permit the carrying as operating expense of a great many items that partake of renewals and replacements, not of a great many items. About the only item that I think of off-hand, is the "Sub-station Removal and Change Charge." They do permit that 2615 to be charged as an expense, as an operating expense. However in connection with that charge the cost of the material, that is the value of the material which is removed when a telephone is removed clears through the regular capital account. If it is set up as maintenance and paid out of operating expense each year and is earned and passes into operation, it does not find its way into capital account, but, I say, the labor cost and incidental cost in connection with sub-station removal and changes is carried as an

operating expense, but the value of the equipment which is removed is cleared out of the capital account at the time it is removed. That is necessary.

Mr. Howard: You mean where it is junked property?

Mr. Hoag: It does not make any difference what becomes of it,——

Mr. Howard: What is taken out of capital account?

Mr. Hoag: If a subscriber orders his telephone removed or cut off, the telephone might be taken out, in which case the value of that apparatus would be charged out of the capital account. That would be necessary to keep the capital account straight, but the expense in connection with the substation removal and changes, that is, the labor expense, incidental expense is an operating expense. That is the only item that I know of where the Interstate Commerce Commission permits of that method of handling.

The Telephone Company labor in connection with the Central office equipment installation is, after the equipment has been installed, has been completed, the foreman on the job would advise the Telephone Company that it was complete and was ready for them to take over. Before the Telephone Company took it over, they would test it, and inspect all of the equipment, which is a pretty sizeable job. In addition to that the Telephone Company would run the jumpers on the frames. I think I have explained the way the outside cables terminate on a frame in the central office, and the way the switch board cables terminate on the other side of that frame to connect the line. At any rate it is a process they go through to see the way the thing is going to work. I feel sure that it is not handled in the maintenance account, but in a job of this kind where we are installing new work, the labor in connection with that would be charged to the 17-C account which is the capital account for central office equipment.

Redirect examination.

Questions by Mr. J. D. Frank:

Under great pressure and as an emergency measure we might install the central office equipment that we have here in the Houston Exchange in nine or ten months, but to install it in an economical manner would require approximately one year.

The next item in the summary of the appraisal is Item No. 5, Station Equipment, and I show the cost of reproducing that property as \$318,685.00. A detail of that is shown on page 167. I will pick out one particular item and explain how I found that cost. On page 168, one of the largest items is a No. 20 A. D. Desk Stand; 2617 that is the ordinary desk telephone. The price, as shown, is for the material, \$2.85. On page 154 of the material price list and unit costs is shown the material cost on the No. 20 A. L. desk stand, that being the fourth item on that page. The cost of the set itself is \$2.10 with the cords and the supply expense added, makes a total cost \$2.85. On page 156 is shown the detail cost of station installation. The cost of the desk stand and the other parts

of the station apparatus on page 168 is for the material only. The labor cost of installing that apparatus is included under the heading "Subscribers Station Installations" on page 169 of the appraisal, and the detail of that is shown on page 156 of the unit costs. That labor and incidental cost is \$3.20 per station. We have 17,732 of those desk sets in the plant. The total cost of reproducing those 17,732 sets is not shown in the total, but the total cost for the station apparatus is shown which is \$84,962.86. That is for that portion of it on pages 168 and 169. I have a summary of the station equipment on page 167 and the total is \$318,685, which is the fifth item on the summary sheet on page 1 of the appraisal.

On page 169 of the appraisal under the item "cost in place" I have the figure 20 cents, but that is an error and should be \$3.20, making a total cost of \$78,336. The total shows that this is in error.

Mr. Frank: We would like to have that corrected in the copy that has been introduced in evidence.

The Master: The copy that I have?

2618 Mr. Frank: Yes, page 169 of the Appraisal.

The Master: Shall I make the change? Is that the idea?

Mr. Frank: Yes sir.

Mr. Howard: Down at the bottom "Ground Clamps," what is that? That is smeared too.

The Master: 14,980 here, the second one on the page.

Mr. Hoag: That is 7830. I am not quite sure about that second figure there. If I may I can correct them later. I have now figured it out and the correct figure is 720 instead of 7830. That does not figure in all the apparatus which is connected with the telephone sets. It does not include the receivers, transmitters and induction coils. As I have previously testified I excluded those because they are owned by the American Telephone & Telegraph Company.

Now, adding up the lands, buildings, distributing system, central office equipment and station equipment, I get a figure as the cost of reproducing those particular items of \$4,655,562 which represents the bare physical property, exclusive of the furniture and fixtures, tools and store equipment and stable and garage equipment. Those particular items which have just been mentioned are treated further down in my summary.

I have not included any overhead charges in estimating the cost of reproducing those particular parts of the plant. Neither have I included any overhead charges in my material charges and  
2619 unit costs in arriving at the cost of reproducing those particular parts of the plant.

The next item which appears on my summary of appraisals is "contingencies and omissions."

Omissions might be grouped under two or three heads. The human omission due to failure to count or list all of the multitude of parts which go to make up the property. The intentional omissions such as the extra length in the sag of the aerial cables. I have testified that the aerial cables were measured along the ground beneath the cables, and the sag was not taken into account. Neces-



sary omissions, as in the case of hidden property, such as the concrete cribbing of poles which does not appear above the surface and is therefore necessarily omitted. The contingencies are things which might happen, possible but uncertain things which might happen in the construction or reproducing of such a plant, such as accidents, floods, bad weather, mistakes, fires and other similar things.

I have prepared an exhibit showing examples of contingencies and omissions.

Mr. Frank: We offer that in evidence as Plaintiff's exhibit No. 20.

(Thereupon said exhibit was received in evidence, and marked Plaintiff's Exhibit No. 20, and said Plaintiff's Exhibit No. 20 is transmitted herewith in Exhibit File.)

2620 In fact I used a figure of 3 per cent which is 3 per cent of the cost in place of the physical property, exclusive of furniture and fixtures, tools and store equipment and stable and garage equipment and that gives me in dollars and cents \$139,667.00. The general statement on the first page of the exhibit is important. In that it deals with things that means a good deal. The first item: "Nothing is included in the appraisal for either casualty or public liability insurance during the construction of the property. 2. No allowance has been made for fire insurance during construction on building, equipment, supplies and so forth. 3. Slow delivery of material and in some cases wrong kind of material shipped, often causes delays in the work and necessitates rush shipments of material by express in order not to hold up the work. 4. Supplies are damaged or lost in transit which delays on the work until the item can be found or replaced. 5. Workmen are severely handicapped and there is much delay due to rain, storms or extreme heat and disagreeable weather. On a bad day considerable time is lost either closing the work and taking proper precaution to protect the work and the public waiting on the job until the weather is favorable to progress."

I will take up a particular item of property and show how these omissions and contingencies enter into it.

On page 2 of the exhibit, under the heading of "Land." The first item is the "cost of Searches." That has not been included in the appraisal. The cost of searches has not been included in the appraisal. By the term "Cost of Searches," 2621 I mean that before this property could be purchased it would be necessary to search the records to be sure that they could acquire clear title to the property. In other words the examination of an abstract.

Item No. 4 on page 2 covers the fences and side walks which would be added to the property. None of those things have been taken into consideration in the appraisal of those lots. We have sidewalks and fences at all of the lots, we have drives and other concrete and curb work which costs considerable money, and they have not been included in the appraisal.

As an example: the Preston lot has a fence along one side and along the rear and it has a drive into the yard, concrete drive, and it has a concrete wash stand for the use of the garage people in



washing the cars. It has a curbing around the lawn on the front part of the lot, and none of those things have been included in the appraisal.

Item No. 5 under "land" is the "Resodding lot at completion of building." That we have done in all cases in Houston, and that has not been included in the appraisal. The land is torn up and it is necessary to resod that after the building is put on it.

Under the heading of "Building" item No. 3 is the "Omission of awnings, screens, etc." We discovered that we had omitted that after we had compiled our inventory and they are not included, although they are used on all buildings.

2622 Item No. 4. is "Increase cost of installing certain conveniences after building has been completed." It, of course, is always necessary, and has been necessary in the case of the Houston building to add some wiring and other similar things after the buildings were completed, just as a man always has to add to his residence after he has it completed by the contractor. I might add that I found a day or two that in the building up of our appraisal that we had not included in the reproduction cost of the buildings any architect fees. That amount would amount to some \$24,000 on the basis of paying the usual 5 per cent to the architect. That was an unintentional omission, and was not included in the estimated cost of reproducing those buildings at the present time. The contractor merely furnished me an estimate of what it would cost to reproduce the building at the present time, and I adopted that without adding anything for architect fees. Five per cent is the customary architect's fee for designing and superintending a building, and that would amount in all to about \$24,000. That was not included in my appraisal, but I did not intentionally omit that, it was merely an oversight which I did not discover until a few days ago. If I started in to reproduce that building at the present time I would actually have to pay that money.

Under Central Office Equipment, Item No. 1, is the omission of certain items of furniture, floor covering and office fixtures. It is almost impossible to count and inventory those things without omitting certain things. Item No. 3, it is some times necessary to employ local skilled labor for cabinet work and refinishing  
2623 damaged cabinets, after it is turned over to us complete by the contractor. In connection with the installation of the considerable amount of Central Office Equipment and apparatus the workmen always damage those things, and it is always necessary to refinish them.

On page 3 of the exhibit, Item 10, "Omission of certain extension bells, protectors, ground rods, switches, jacks, push button, buzzers and other inconspicuous or special equipment," which is not easily seen when making the count or inventory.

Under "Pole Lines" the first item is the abnormal cost of excavating. A. Hard digging, and B, fluid soil. There is little or no hard digging in Houston, but this wet soil adds materially to the cost of excavating. I might say right there that our unit costs—I think I have said this before—represent the normal unit costs, and do not

take into account these excessive costs. Item No. 6, "No allowance has been made for the cost of stenciling poles." That was not included in the appraisal. Item 10. "No allowance made for poles wrapped at butt." It is necessary to protect the poles from teams and traffic to prevent them being broken, and that was omitted from the appraisal.

Under "Aerial Cable" Item No. 1, "No allowance has been made for increased length due to sag of cable suspended." In Houston there are approximately 10,000 strands of cable, almost one million feet, supported on suspension strands. The average sag of each strand of cable must equal 15 inches; on the basis of 12 2624 inches, however, that is 10,000 feet of aerial cable which has not been included in the appraisal. The average size aerial cable costs right at 75 cents per foot, and that would mean in turn approximately \$8,000 omitted in that item.

On page 6, under "Underground Conduit" Item 6, "work done out of regular hours to avoid interruption of street traffic." That is a very real thing in the down town section of Houston. It is becoming almost impossible to work, to open manholes and do other underground work during the day time on account of the traffic congestion, and it costs considerably more to do the work, of course, on an overtime basis than it does during the regular hours. We have to pay the men overtime when they work after night time, and in addition their efficiency is considerably less at night than at day time. In estimating the cost of reproducing this plant, I have estimated the cost under normal conditions and made no allowance in my unit costs and material prices for doing some of this work out of the regular hours.

On page 7, under "Underground cable," the first item is "water in manholes, gang delayed while this was being pumped out or bailed out." That is a very real source of expense in Houston. Our conduit system stands full of water most of the time, and it is necessary to not only pump out the system before we can work in the manholes, but it is also necessary to pump and bail out during the time the work is being carried on.

On the last page, Item No. 6, "Delays to gang on account of 2625 gas in manholes, which has to be removed before work can proceed." Illuminating or sewer gas is always present to a greater or less extent in underground conduit systems, and we have to use electric blowers when the gas is bad, and make other special arrangements before the men can work in the manholes. Those things cost money. One other example of contingencies and omissions not connected with telephone work, but a very real example of what contingencies and omissions mean, are the slides which were encountered in the construction of Panama Canal in the Culebra Cut. An engineer estimating the cost of that cut at this time, not knowing about those slides and the enormous expense which was entailed to clear them, to clear the canal, certainly would not include that in the estimated cost of reproducing the canal. We actually have these other matters that I have mentioned in connection with the construction of telephone property, and I am not

merely conjecturing as to these various things. There is not an item listed under the head of contingencies and omissions in this exhibit, but what I have experienced at some time or other in the doing of telephone work. I have been in the telephone business for 20 years, and am speaking from experience when I say these various things happen in the construction of telephone property.

I used a figure of 3 per cent of the physical property for contingencies and omissions. I did that because I have read over a large number of commission and court decisions in connection with rate cases, and in all cases allowances were made for contingencies and omissions. The allowances made varied from 2.97 to 5 per cent depending upon the kind of property being appraised, and inventoried, and also to some extent upon the care which had been exercised in the making of the appraisal. I know that such an allowance is generally made by other engineers usually from 3 to 5 per cent, 4 per cent probably represents an average allowance. Therefore I would say that the figure of 3 per cent was a very fair figure.

Mr. J. D. Frank: If Your Honor please, I would like to refer to six or eight cases—it will not take more than five minutes showing the allowance made in other cases.

The Master: Go ahead.

(Thereupon Mr. Frank presented some authorities to the Master.)

Cross-examination.

Questions by Mr. Howard:

"Q. Mr. Hoag, this item of omissions and contingencies, that is usually brought into play when one goes out to estimate the cost of producing a plant that is to be constructed."

"A. In connection with determining the reproduction cost of the property."

"Q. But when you have the plant already constructed, and there is nothing to do but make the count, it is a question of making an accurate count, is it not?"

"A. That is practically impossible."

2627 "Q. Don't engineers recognize such a thing as compensating errors in making an inventory? In other words, all the errors are not against the company and tend to increase the cost of construction?"

"A. In our inventory of the Houston Exchange property, we didn't find in checking the field men that they had duplicated but three items, as I recall it."

They will not duplicate to the extent they will omit. I don't know that engineers often make an allowance for compensating errors that tend to reduce the cost—offsetting the errors that increase the cost. That may be a careless way of engineering, but not an ac-

curate way of engineering. I have made a considerable number of inventories and appraisals, and it is just as I tell you you, practically impossible to make a complete count. No, you are not just as liable to count eleven thousand poles as you would nine thousand poles when you go out to count ten thousand poles because in the making of inventories we take special care to see that there can be no duplication. We try to see that we get them all in, but we do not succeed. It is easier to guard against duplication than it is to guard against omissions.

Mr. Howard: Although you have got conditions before you and looking at them. This is not like if we had no telephone company, and you went out entirely relying upon estimates and plans to reconstruct the plant, you have got nothing to guide you at all in that case, but in a case like this you have got the whole plant, and all you have to do is to look at it. It will take some time, but you will devote that time to it.

2628 Mr. Hoag: Yes sir, but as an example. I a short time ago tried to list all my household furniture for insurance purposes, and had to go over it four times before I had included in that list what I thought constituted all of the furniture and that is a very simple inventory. I am sure I did not get down any of the furniture twice. It would be a natural mistake if I had a great deal of furniture to list a lot of these small articles, count them once and set them aside and somebody else come along, especially if two or three men were working on it, but it is much easier to check duplications than omissions. You would have to go on the ground and do all the work over again. I did not add this three per cent because the Commission thinks it is a very good thing to do, but I did it because I think it the proper and fair thing to do. I did not do it without regard to the Commission, I considered the Commission and Court's ruling, the Court's findings. I made the percentage low, 3 per cent instead of 5 per cent, because I felt we had a very careful inventory of this plant and I am reasonably sure we did not duplicate anything.

"Q. When you are estimating the cost of reproducing a plant, you do not assume that the sun is going to shine every day in the week, every working day in the week, and there is not going to be any over time, or that there is not going to be some trouble to be confronted, do you? When you make the estimate you carry that into your labor cost, don't you?"

"A. These labor costs are built up from actual experiences, actual performance. I have previously testified that I neither used 2629 the highest cost nor the lowest cost, but that I used my best judgment to obtain normal costs, eliminating abnormal costs which I found existed in connection with the actual performance on certain jobs, which jobs I am familiar with. I eliminated from many of these jobs which I was familiar with the abnormal costs, the best way and the most accurate way for caring for these omissions and contingencies is in the manner in which we have attempted to care for them."

"Q. To assume in your construction you are not going to run into difficulties, and going to get your labor on the minute and your operators will always be on hand promptly, and there will be no rainy weather, no hard ground, and no liquid ground, and there will be no cave-in you will eliminate all those contingencies and when you get through you will add 3 per cent?"

"A. No sir, what you have said would mean figuring the cost of the work at the lowest possible expense. You assume that all conditions would be ideal. I do not assume that."

In setting up this cost of reproduction I took my labor cost and material cost under conditions that actual experience has demonstrated attend this character of construction, with the abnormal costs eliminated. I testified previously that in the case of one job of underground conduit construction in Beaumont, it cost us nearly 30 cents, or 35 cents per duct foot.

2630 "Q. My suggestion is, Mr. Hoag, and I expect that will be confirmed by your experience, that one particular instance does not create conditions of construction. We all know that at times,—like you cited the Panama Canal, there are times when one runs into conditions that reduce what appears to be a very profitable contract into a losing contract, but upon the other hand you are apt to run into conditions that are even more favorable than those upon which the estimate is based?"

"A. Yes sir, and I said that I tried to get on the middle ground."

That is a compensating element, but in building up these unit costs, I had to consider both the jobs that cost the least amount of money and the jobs that cost the most, and had to exercise my judgment as to what represented the normal cost, and that is what I have done.

I applied this omission and contingencies to the land because of services in connection with the land.

"Q. You first cite the cost of what you call searching, or getting the abstract or examining the title. Did you figure what 3 per cent on something over two hundred thousand dollars' worth of land was? Wouldn't you get a total of something like seven thousand dollars for errors and omissions in buying two or three little pieces of land?"

"A. 3 per cent has been applied to the physical property as a whole."

2631 "Q. But you segregate them and undertake to justify the three per cent charge?"

"A. No sir, the physical property as a whole. If dealing with land only the percentage would be reduced, and if dealing with the distributing system only the percentage would be materially increased."

"Q. You wouldn't undertake to justify a 3 per cent omissions and contingencies charge on buying this land, would you?"

"A. Land only, no, sir."

"Q. And particularly you wouldn't undertake to justify them

upon land that had probably been bought at 50 per cent of its present value?"

"A. I am dealing with reproduction cost."

"Q. That is true, but I am asking you about applying these omissions and contingencies. You wouldn't like to have that stand as a fair example of omissions and contingencies the way it has been applied to this land?"

"A. Not to the land individually. It has been applied to the total amount of property, physical property, and if you separate them you might say that one-half of 1 per cent is applicable to the land, and 6 or 7 to the distributing system."

"Q. The logical way would be to separate such items as land, when it amounts to \$200,000 and upon which there can be no errors and omissions—eliminate that item entirely?"

"A. No sir."

"Q. The possible cost of omissions and errors in buying a piece of land amounts to practically nothing, and can amount to very little."

"A. It amounts to several thousand dollars in Houston, the 2632 side-walks, the curbing, the lawns, the fences, the drives, all of which things have been mentioned."

"Q. We are using telephone costs. We are not building a winter garden, we are building a telephone company?"

"A. All those things are necessary on that land."

"Q. And you are willing to let it go down as a fair test of your idea of errors and omissions, that something like seven thousand dollars is a very fair amount to apply to this item of land?"

"A. I have certainly not said that."

"Q. You said several thousand dollars, what do you mean by that?"

"A. Probably \$3,500."

"Q. You would regard that as fair—you are willing to let that go in as your idea of omissions and errors \$3,500 on this land?"

"A. That may or may not be correct; that is a guess."

"Q. Take the next item, "Building." These buildings were built upon competitive bids, were they not?"

"A. Yes sir."

"Q. What has the telephone company got to do with, or what does it care about errors and omissions as regards these buildings?"

"A. I mentioned one big item, and that was the architect's fee, which has been omitted, and that in itself amounts to \$24,000."

2633 "Q. What other engineering expense beside the architect, do you have?"

"A. Our engineering. It appears in this appraisal, but it does not contemplate the design of the building. They lay out the floor plan, and that floor plan is given to the architect who really designs the building."

"Q. Can an architect design a telephone building?"

"A. Yes sir."

"Q. Then if you did the engineering work and charged it up as engineering, there was no omission of the architect?"



"A. Architectural work and engineering work are two very different things."

"Q. Both brands of engineering?"

"A. But as used in this appraisal the engineering is telephone engineering—"

"Q. Interrupting.) You mean preparing the plans, that is a part of the architect's five per cent, for preparing the plans?"

"A. The architectural portion of it, but there is engineering expense in connection with those plans on the part of the telephone company, their engineering department."

"Q. That is getting up the building plans?"

"A. No sir."

"Q. If you have planned just how a building is to be constructed, that is all the contractor has got to do it from, those plans?"

"A. If I may explain what our engineering department does with the building plans before the architect starts to design  
2634 the building. The telephone engineer lays out his floor plan; he determines first the amount of business he has to care for, that is, to determine the amount of equipment which has to be placed. The operating conditions are determined, how that equipment shall be placed, and gets those things together and makes up the floor plan, showing how he wants the equipment arranged, and simply turns that floor plan over to the architect, and says, "this building has to have a strength of 300 pounds per square foot of floor space because we are going to put an enormous weight on it." And "we want it seven stories high, and we want these ceilings of a certain height so we can place the equipment in the building when we get it. Now, knowing these arrangements, and knowing what we want, you design that building," which the architect then does. Two separate and distinct jobs."

"Q. He gives the architect the floor plan; then he doesn't have to duplicate that work?"

"A. Yes sir, most certainly he does in connection with his designing of the building. This little floor plan which our telephone engineer gets up cannot be used by the contractor. It takes the architect's detailed plans."

"Q. That would be a \$25,000 "little floor plan"?"

"A. You are again trying to apply the four per cent to one particular item."

"Q. You say four per cent is your engineering expense, and that it has nothing to do with your architect's fee," and you say that little floor plan would cost you four per cent of a half million dollars, or twenty-thousand dollars, wouldn't it?"

2635 "A. I previously explained to you that these percentages are based on the total physical property, as a whole."

This item of 4 per cent which I have set up to engineering is by the telephone company's engineers. They are in the employ of the company, the regular corps of engineers, but they are not paid out of the operating expense each; engineering expenses are charged to the capital accounts. The Southwestern Telephone Company has a corps of engineers attached to its payroll all the time, but their ex-



penses are not charged to operating expense, but are charged to fixed capital account, the salaries of all engineers. The engineers do not go about the plant all the time looking at work and maintenance and keeping the plant up and things of that kind,—not in general, the engineering has to do with the construction, primarily, but not altogether. I am reasonably sure that the salaries of the engineering corps of this company are not paid out of operating expense, but the accountant can tell you positively that engineering is not a part of the designing or planning of this building, which is ordinarily the work of an architect. I have explained previously that a certain amount of engineering is necessary before the architect can design the building. The one who owns the building has, in some rough way, to tell the architect what he wants before he can start the building, but in connection with telephone buildings it cannot be told in a rough way, it has got to be told in detail. I do not think it would take \$10,000.00 to get in draft what they wanted before the architect can go to work. I have previously explained that the contingencies and omissions expense of 3 per cent was applied to the total amount of the physical plant as a whole, and the same thing applies in the engineering, the actual engineering expense, considering buildings only, might be less than four per cent, but the engineering expense on another class of plant like the Distributing System, might exceed and would, exceed four per cent. Four per cent is not a good allowance even for that. Allowances generally made for engineering vary from four to six per cent. It might run as high as six per cent on a particular class of plant, it might exceed six, it might run as high as eight or ten. In this set up I have allowed four per cent for engineering, including the buildings, that is a composite figure. The engineering on land might run less than the engineering on buildings. I have got the land in here too so that it would bring it up about an average of four per cent for all classes of plants. I would not figure that four per cent would be about right for buildings, but I figured four per cent would be right for all classes combined; our engineering has been costing us four per cent for a number of years in the State of Texas. That item of architects was not a contingency, that was an omission. If I had not happened to have mentioned that item of architect- I would not have been without an example because in the exhibit that was submitted attention was called to many other things. Another concrete thing is some special railings that has been added on the stairways in the Preston Building, from the seventh floor down to the first floor. I don't know exactly what that railing costs, but it is expensive. In addition there has been wiring added and many other things. I do not think of any compensating things on the other side that might offset some of this as applied to the buildings, but I have thought of the matter in a general way.

I have taken the figures of the American Construction Company in constructing these buildings and accepted the estimates as prepared by the contractor. The American Construction Company did not build this Preston Building, the Fred A. Jones Company built the Preston Building. I got Fred A. Jones to make the estimate upon

the cost of reproduction and that will be submitted by another engineer. The Fred A. Jones Co. has made the estimate on the cost of reproduction and it will be submitted by another engineer. I would not say that this estimate has been made by the highest bidder that bid upon the construction of the building because I don't know that the American Construction Company was the highest bidder, but presumably it was higher than the lowest bid. It would depend on how the estimator worked as to whether or not if they carried their relative proportion of estimating into the reproduction, whether there would be a lesser estimate than the American Construction Company has made. It is possible that if this reproduction was let out now on competitive bids, there would be bids lower than the bid that I have accepted just as it actually was when we constructed the building, and it is also possible and probable that there would be

2638 higher bids. If this would be let out on the lower bid, I don't see that it would compensate a good deal for these omissions, which I have set up in favor of the company. This estimate that we have used is an estimate of the reproduction cost of the building at this time as made by the American Construction Company. I cannot answer as to whether we got that on competitive bids, the way we constructed the building that it would necessarily follow that we would let the American Construction Company reproduce it, I could only answer that after seeing all the estimates prepared by other contractors. I couldn't answer as to whether or not we might find by getting a lot of competitive bids that we could build this building for less than the American Construction offered to build it, I could not answer that without seeing the other estimates, but of course it is a possibility.

"Q. I am asking you if the American Construction Co., when you actually built this building were excessive in their bids, that their estimates actually carried the cost of the building beyond what you actually built it for?"

"A. I don't know that."

"Q. You know they were higher than the company bid it?"

"A. I assume that they didn't for they didn't get the job."

"Q. You are willing for the assumption to go in the records. So that, if you carry it through, you take the two estimators on the building, and their idea of how they should do it, and their short-cuts and economies in building run along the same way as they did in 1914 when the building *run along the same way as it*  
2639 *did in 1914 when the building* was constructed, the Jones Company would build the building for less than the American Construction Company?"

"A. Your question will be answered when your estimate of the Jones Company is submitted in evidence. That will be done by another engineer."

"Q. But it won't be done by the same man who built this building, they will come in by men who have been employed by the company to go out and make estimates; all of these estimates do come in that way?"

"A. These estimates represent the best judgment of the men who make them as to the reproduction cost of the building at this time."

If we were going to reproduce this building at this time, I would accept that estimate, that bid which was prepared first by the most responsible contractor, a contractor who we can be assured would do a first class job, and second, the contractor who made the best estimate, that is, the best bid, that might be lower or it might be higher.

"Q. Get the question this way: If you wanted now to put up another building just like the one you have got down there, would you ask a certain lot of contractors, tell them that you would like to have their estimates of the cost of reproducing that building, so that they could come up here and testify in this hearing for you, and that they would be paid a reasonable sum for making  
2640 up their estimates, and they went out in that way and you got those figures from them in that manner, would you, if you wanted to build another building like that just across the street from it, take their figures as a basis, and contract with them upon the basis of those figures for constructing the other building?"

"A. I am not sure that I follow you."

"Q. But don't you know you wouldn't do it, don't you know that you would say, "Here, gentlemen, I am going to construct a building, now all you all get down and get your pencils and get them well sharpened, and get to work, get these bids down to where you are going to do business with me," and they would get busy in a different manner, you know that as a practical man, don't you?"

"A. I don't know that."

I don't know that, they have testified or the American Construction Company man testified that this was their estimate of the reproduction cost of this building at this time. It wouldn't be possible for me to go back of that man's statement without going through his figures in very great detail.

"Q. I am just asking you that question, would you accept figures that are gotten up in this way and contract with the contractor upon those figures, or upon any of them made in that way with the idea that they just estimate a building and come in here and tes-  
2641 tify to it, would you do it as a practical engineer, and as a man that was trying to conserve the interests of your employer?"

"A. As I understand the way those—

"Q. I didn't ask you that."

Mr. D. A. Frank: I want to object to Counsel's method of interrogating the witness; whenever he asks the question, I think the witness has the right to answer the question.

Mr. Howard: That is very true. Upon the other hand, Your Honor, I suggest that when Counsel asks a question and the answer as he started to make it is not at all responsive,—

Mr. D. A. Frank: I don't see how Counsel can determine whether the answer is responsive or not.

(The question was thereupon read to the witness.)

The Master: Now, Mr. Hoag, answer the question as directly as may be under the circumstances and you will be permitted on cross-examination or otherwise to explain the answer fully.

"A. Yes sir, I would accept those figures, in that it is my understanding that those figures have been prepared in like manner as they would have been prepared if the contractors were bidding on the construction of those buildings.

"Q. And that would satisfy you, would it, Mr. Hoag?"

"A. Yes sir."

"Q. And is the utmost effort that you would make in order  
2642 to get the building constructed as cheaply as possible?"

"A. A comparison, of course, would be made between the bids, between the estimates as submitted by the various contractors and then——"

"Q. (Interrupting.) Now, just one more question and we'll pass from that? Then you would be as well satisfied with bids—with figures and conclusions of cost of construction made by contractors who go out under employment to say what it reasonably cost to reproduce the buildings for the purpose of testifying in court, that you would be as well satisfied with those figures as you would with figures made by contractors who were anxious to get the job of building, knowing that it would be less than——"

"A. Yes sir——"

"Q. Well, the——"

Mr. D. A. Frank (interrupting): I ask the court to permit the witness to go on and make the answer as best he can.

The Master: Read into the record exactly what Mr. Hoag has to  
say.

"A. Yes sir, I understand that those estimates have been prepared in like manner as bids would be prepared covering the construction of those buildings."

I think it is human nature to prepare them as carefully in this method as they would when they knew that their profits or  
2643 less in construction depended upon it.

When I spoke yesterday about the sag of the wire as an instance of omissions and contingencies I was speaking of the aerial cable, and that also applies to aerial wire. Aerial cables are purchased by the foot, and they do not stretch any,—not appreciable, no sir. If these cables are spread over a cross-arm of a pole today and you go out there a year from today there will be a slight give, of course to the supporting strand upon which the aerial cable is placed. However, our standard specifications covering the initial placing of aerial cables specifically provide that they shall be strung with a certain sag, that is to prevent the excess strain being put upon the pole structure and upon the supporting strand which carries the cable. If you add that sag to the space between the two points you will have the real length of the cable employed. The amount of sag could not be added to the lineal feet, it would have to be estimated. But that is not the usual way to do it. I cannot say

which way would be the more accurate. We know the sag is there, but we would have to estimate as to the amount of the sag.

Redirect examination.

Questions by Mr. J. D. Frank:

Those contractors who have made estimates of the cost of reproducing these buildings were not requested to make those estimates just for court purposes, but they were requested to make estimates of reproduction costs of these buildings. The request was made through Mr. Gottlieb, or to Mr. Gottlieb, of Sanguinet, Staats & Gottlieb, architects, and he in turn requested these various contractors to make the estimates. I don't know whether or not the gentlemen knew that they would be called upon to testify in this case when they were requested to make these estimates.

Counsel for the City has referred to omissions which may not have occurred but it is a fact that a great many of these things were unintentional omissions, but those omissions do not constitute the only thing that is included in this figure of three per cent, which I use here. The intentional omissions such as have already been mentioned and the necessary omissions, such as concrete cribbing around poles. That cribbing is placed beneath the surface of the ground and usually cannot be seen. In inventorying this Houston plant, we knew that we had a large number of poles that were cribbed beneath the surface, but only in two cases did the concrete cribbing appear above the ground, and therefore there were only two poles inventoried as being cribbed with concrete.

I testified that in addition to the architects' fees, amounting approximately to \$24,000.00, which was unintentionally omitted from my appraisal, that various other things have been added to the people, among other things, the extra railings on the stairway in the Preston Building. Railings are on each floor, and on the stairway from the first floor to the seventh floor, the stairs are arranged in flights, there are three flights between each floor, and the railing parallels the stairs. We are not undertaking to mention all the things specifically which have been added to the building since the building was constructed, but we have tried to cover it in a general way in the exhibit which was submitted among other things which might have been or were omitted.

The usual practice among engineers with reference to the valuation of contingencies and omissions is to apply the percentage in the same manner as I did, to the total amount of physical plant, and not to subdivide it under classes of plant. I could have worked this out as to each particular piece of property, that could have been done, and if I had worked it out in that way contingencies and omissions would amount to one-half of one per cent or one and one-half per cent on the land, but of the Distributing System it might amount to seven or eight per cent. What I have done is take the average on the property as a whole instead of confining it to one or two specific points. I should like to say something in connection with contingencies and omissions. This telephone property, the

Houston Exchange, is scattered over a very considerable area. A man might go out into a field with ten thousand dollars and scatter them over that field. Then he might start and gather up those ten thousand silver dollars. It is certain that he would not gather up more than ten thousand silver dollars and it is fairly certain that he would gather up a less number, *but*, I think applies in the case of this property, this plant.

2646 Mr. Howard: If he made an accurate search, he would get them all, wouldn't he?

Mr. Frank: He would have to hunt a long time, too. It is the same with my inventory here. I started out and made it the best I could, but I know from actual experience that you are never able to count all of the property entering into a plant of this magnitude. I did not make an allowance of three per cent in this case just because the commissions were accustomed to making allowances of this kind, I did not do it for that reason. I assume that the Commissions make allowance for engineering, in that they have been advised by high-class technical men who understand what it means to construct and design property, that engineering expense was necessary and that engineering expense was always incurred in the construction of property. The Commissions and Courts must have been advised relative to Omissions and Contingencies in the same manner. All first-class engineers make allowances for those.

With reference to this engineering for building. The engineer does not just advise the architect what must be done and then wash his hands clean of the whole matter, the telephone engineer in connection with building construction first prepares the preliminary floor plan showing the general arrangement of the building. After that, the architects design the building in detail, that is, they prepare the working plans from which the contractors make bids, and by which the contractors construct the building. The engineers also supervise in a general way the building construction work as it progresses. They in turn approve payments that are made from time to time as the parts of the building are completed, and are constantly dealing with the architects and the contractors during the construction of the building.

Counsel has asked me as to whether or not the salaries of the engineers are paid out of current revenue. That has not got anything to do with my estimated cost of reproducing this exchange, where the money comes from to pay those engineers does not make any difference. What I am doing is estimating the cost of reproducing this property at the present time, and I am assuming that all of it is new construction, and the charges as made, that is, the cost of reproduction as prepared, represents the charges that would be made to the capital accounts. The engineering work in connection with maintenance is very very limited, and consists really of only advising the operating and maintenance people. Engineering does not enter into the maintenance of the plant to any considerable extent. The engineering that I have been speaking of here is all engineering with reference to new construction, and is the



engineering expense which is added to the capital accounts. The question of how it is charged does not enter into this case at all because I am estimating the cost of reproducing the Exchange,—everything is new capital.

With reference to letting the contracts for building these 2648 buildings to the lowest bidder, we do not necessarily let a job of that kind to the lowest bidder,—we also have to take into account the responsibility of the bidders.

Mr. J. D. Frank: Now, if Your Honor please, I want to take up at this time the exhibit which we started in to explain yesterday with reference to the comparative cost of other buildings. At that time Counsel objected as to these details, and stated that he thought that he wouldn't go into the question of building and so on.

Mr. Howard: I haven't gone into it. I have limited myself specifically to these contingencies and omissions. I haven't attacked Mr. Jones' valuation. I haven't attacked the valuation of these buildings you have set up there, that he has made, I am attacking merely the element of contingencies and I say that as an off-set to these contingencies, there is in all probability and would be a compensating element in having plants let by the lowest bidder. I haven't yet attacked the cost of these buildings as set up in this estimate.

Mr. J. D. Frank: It seems to me, Your Honor, that Mr. Howard has very, very vigorously developed the fact that a lower figure should have been used as to the cost of reproducing these buildings and I now ask for permissions to go in and show that the figures which he has used is a conservative figure and with that purpose in view, I want to take up that exhibit and show the actual cost 2649 of other buildings as is throwing light on this subject.

Mr. Howard: For the purpose of saving time and expense of encumbering this record, I will further insist that I will not attack the prices of those buildings as set up here. Mr. Jones or the American Construction Company has set up certain costs of this building. He has not set up any additions. Now, in addition to that they come on here and want to add 3% more. I have simply undertaken to show that that 3 per cent ought not to be added because there are compensating elements that off-set those things. While he might take those prices—this price and accept it, nevertheless, if they could have gone out and gotten competitive bids which would probably have been low enough to off-set those omissions that they set up in other ways. Now, furthermore, I object to it and I am doing this only in the interest of time and of the record, that it is not a proper way to prove values what the buildings cost in Fort Worth where the excavations are different and the freight charges are different and everything of that kind or what it might have cost to build one in San Antonio, is not evidence of what it would cost to build a building here where it is susceptible of being shown by direct evidence what the cost of building a building is and it would not be admitted before a jury or a court, sitting as a trier of fact. Of course, this is before the Master and not before the Court. A great latitude is allowed to receive all those things and



2650 exclude them as material, yet this bearing is being prolonged, it promises to be very lengthy and all these things that tend to prolong it, I say should be eliminated where it is not competent testimony, particularly where we have not attacked this value set up by Mr. Jones.

Mr. J. D. Frank: I will state that if counsel concedes that this is a reasonable valuation of those buildings, I will not press my point but unless he does, I want to come in and show and I think that the testimony is very relevant for the purpose of showing that the estimated cost of reproducing these buildings is a conservative figure. We have built other buildings similar to these buildings. We know what the cost of those buildings has been and I submit that that is very material in considering the proposition as to whether or not the estimated cost of these buildings is or is not conservative.

Mr. Howard: I don't think we would be bound to admit it, Your Honor. We haven't attacked it and they have direct proof in here as to the value of these buildings, as this record rests.

The Master: The value of the buildings in San Antonio and Dallas would have in my judgment but slight weight but I am inclined to think, as far as evidence is concerned that it might have some slight circumstantial evidentiary weight and if they insist, I will ask them to put it in as briefly as may be.

2651 Mr. Howard: I suggest, your Honor, that as a very primary predicate for the admission of this kind of testimony at all, it must be shown that the conditions are similar.

Mr. D. A. Frank: We expect to do that, Your Honor.

Mr. Howard: And that the conditions at Dallas, Fort Worth and San Antonio, and those places, of necessity are not similar.

The Master: The conditions to a degree are similar to a slight degree.

Mr. Howard: But they have got to show they are substantially the same before that testimony is admitted. I just submit it would be error to admit it in a trial before a jury because the conditions cannot be shown to be substantially the same, because they are far removed points, there is nothing to indicate that the same prices attach to material or attach to labor, or that the character of excavations for buildings are similar.

Mr. J. D. Frank: Well, we expect to show that.

Mr. Howard: It can't be shown and the conditions are such that they can't—in other words, they can't show what it cost to build a building in Dallas at a certain time as bearing upon the reasonable value of constructing buildings here. It is not proven that way. Isolated cases of what it cost to build buildings

2652 are not evidence of value. There are so many necessary elements that could enter into it. The way to prove value is to prove it by men who are familiar with the construction of buildings in the community under substantially the conditions in which the building in question was built and when that is done they have applied the most direct and logical way of making the proof and it is not proper, it is not the best evidence, and it is not proper evidence to try to fortify that by evidence that has only at

most a very remote bearing upon the question, and that is particularly true when the value as has been established by this direct evidence has not been in any way attacked. So, if we go into the construction of all these buildings in Dallas, it is liable to take a day to go into all those things. If we took only 20 minutes, I wouldn't object to it, but it is opening up a field for a whole lot of this long drawn out and useless detail.

Mr. D. A. Frank: The long drawn out discussion is on the part of the Attorney for the City. If he had just kept quiet, we would probably been through with it by this time. The question is not the weight of the testimony but the admissibility of it. Your Honor hit the nail on the head when he said it might have some evidentiary weight. It is up to us to show that the conditions are similar. If the conditions are dissimilar, it can't be very much, but it certainly is admissible. Then the weight of it is for Your Honor to determine after it comes in. We offer the testimony because Mr. Howard has directly attacked the figures which are presented by a gentleman whom he did not cross examine, and we were led to believe at that time that he wasn't going to attack him.

The Master: Just a moment, gentlemen, my view of it is that it might be perhaps admissible if we were trying this case before a jury and the weight of it would be entirely for the jury and we can probably get it in while we are talking about it. I would rather make a mistake by letting it in.

Mr. Howard: If it is, I will have no objection but I will be happily disappointed if they do, judging by the precedent that has gone before.

Mr. J. D. Frank: I could have it in in less time than he has been arguing it.

This is Exhibit No. 19 and this Exhibit shows a comparison between actual costs of Central office buildings constructed in Texas and since 1914, and the reproduction cost of the Houston buildings as used in this appraisal. I have figured out the reproduction cost per cubic foot of the Preston building, and it figures 56.8 per cubic foot. As to how that compares with the cost per cubic foot in the State of Texas at this time,—we haven't a building, we haven't constructed a building of this same type of construction. We have built this year, however, a new central office building in Beaumont, which is a two and one-half story reinforced concrete building, about one-third the size of the Preston Building, and the cost of that building per cubic foot was 52.4. This Houston building which is a seven story steel and reinforced concrete structure, and a much finer building than the Beaumont Building was 56.8 per cubic foot. The Beaumont building is really comparable with the Hadley Central office building. The Hadley Central office building, the estimated cost of reproduction is 45.7 cents per cubic foot, as compared to an actual cost of the Beaumont building, a like kind of building at 52.4 cents. That Beaumont building was constructed,—completed in June 1919. That cost something like seven cents more per cubic foot than my estimate of the cost of reproducing the Hadley Exchange building in Houston. My estimate of the

cost of reproducing the Preston building is 4.4 cents per cubic foot greater than the cost of the Beaumont Building which was completed in June 1919, which is accounted for by the difference in type and kind and size of the building. I might call attention to the fact that the Hadley building has 186,237 cubic feet, and the Beaumont building has 189,000 cubic feet, indicating the like size of the two buildings. The Preston Building has 623,000 cubic feet. The larger the building gets the more it costs per cubic foot as a rule, in that the foundation work, which is one of the very costly things in connection with building construction is, of course, very much greater for a seven-story than for a two-story building.

Cross-examination.

Questions by Mr. Howard:

2655 I do not think that actual cost is the proper way to get at the value, but I think it is one of the things to be considered in determining value along with many others. I don't know how to obtain the actual cost of these buildings. We have no accurate record of the actual cost of these properties. We don't get anything we don't pay for, of course, and we don't pay out anything that we don't put on our books, but it has only been during the last four, five or six years that our accounting system has been such that we really have built up costs which amount to something. That Beaumont building was practically the same construction as the Hadley Building.

Mr. J. D. Frank: In connection with the next item of engineering, Your Honor, I would like to refer to a few cases on that. This will only take about three or four minutes. I just want to show the allowances that have been made in a few other cases.

(Whereupon, Mr. Frank read to the Master authorities covering the next item of engineering.)

Mr. Howard: Mr. Frank, I assume that you are reading these things in order to direct the mind of the Master to certain things that the evidence may develop. Would you mind stating to him that there has been a change in the manner of charging overheads since the year about 1910, that prior to that time a great amount of the engineering was taken care of by the manufacturers to furnish the plant equipment, and was carried to a great extent in  
2656 operating expenses, and it was only upon late construction that this 15% overhead was allowed, where it developed that the construction has taken place as of the present time, that these overheads have been allowed, but that on prior construction where it has been allowed at all, it has been allowed at a lesser rate.

Mr. J. D. Frank: If those are the facts, I don't know it, and I could not make that admission.

Mr. Howard: You don't know about that?

Mr. J. D. Frank: No, sir, I don't know about that. I would be glad to be educated.

Mr. Howard: As long as these theories are being suggested to the Court, we suggest the theory that this plant was not constructed at the present time, that the greater part of it was not constructed at the present time, that a great part of it was constructed in the latter eighties, some part of it in the nineties, and it has been added to ever since; that during the course of that construction, a large part of it was taken care of by the manufacturer, that the engineering services were not called for, and were not used as they are in present day construction, and also that they are largely taken care of by way of operating expense which the company has earned.

Mr. J. D. Frank: I think you are in error about that.

Mr. Howard: Well, I am just suggesting that to the Master to have in mind.

2657 Mr. J. D. Frank: I don't see what that would have to do with the present cost of reproducing this property.

Mr. Howard: Your plant was not built in 1919, it was built prior to that time.

Mr. D. A. Frank: You are confusing cost with reproduction cost.

Mr. Howard: Well, they all run together. Upon that proposition too, we are submitting this entirely new theory that you won't find any city like this without telephone service at this date when you start in to build the plant up. I would like to have you keep these matters in mind because we will discuss them later on.

Redirect examination.

Questions by Mr. J. D. Frank:

The next item after Contingencies and Omissions is Engineering Expense.

First, the Interstate Commerce Commission prescribes that engineering expense shall be charged as follows: that appears on page 79 of the Interstate Commerce Commission's Uniform System of Accounts for Telephone Companies" That exhibit that I am referring to has been introduced in evidence and is exhibit No. 11.

2658 The Interstate Commerce Commission defines "Engineering Expenses" as follows and provide that it be handled as follows: Account No. 705. "Engineering Expense. Charge to this account or to appropriate sub-accounts all expenses for engineering so as to show separately the follows: (1) Salaries and wages; (2) personal and incidental expenses of engineering department employees; (3) rent paid for office and (4) office expenses. This account shall be cleared by apportioning the total expenses to operating expenses and fixed capital accounts on the basis of service rendered, as determined by the actual time devoted to particular jobs or on an equitable basis fixed by the officers of the company." The reason I have taken the figure of four per cent, is because our engineering has been costing us in the State of Texas for a number of years. It is customary for valuation engineers to include an item of this kind. I have read over a good many commission and *and* court decisions, and it is customary to

allow from four to six per cent as engineering expense. Five or six per cent is the usual average allowed but it is the practice among engineers to allow for this item. Therefore, I would say that this four cent which I have used is very conservative and represents what our engineers have been actually costing us. Four per cent which I have allowed for engineering, of the physical cost of the property would equal \$191,890.00. If I were starting in to reproduce this property it would cost fully that much for engineering expenses in connection with the value of the physical property. Engineering is a very necessary part of the work of constructing any property of this kind.

2659 One small item, for example, of the economies which are effected by careful and intelligent engineering would be in the case of the construction of say, an aerial cable. It appears to be a very simple matter to string a 100-pair aerial cable on a pole line in some sections of the city, but as a matter of fact before that cable is placed, a careful study is made of the amount of business to be had in that section of the city at this time, or at the time of construction, and a very careful estimate is made as to the amount of business which will be had in that section in the future, thus it is determined the amount of cable which shall be placed. A 100-pair cable placed aerially costs approximately 50 cents per foot in place. A 200-pair cable placed aerially costs approximately 86 per foot in place. Two 100-pair cables, placed aerially would cost a dollar as compared to 86 per foot for the 200-pair. That, of course, is due to the two suspension strands, and the work of placing the two cables as against the cost of placing but one. Now, if the engineering is properly done, carefully done, intelligently done, then the proper sized cable will be placed. If there is enough business to be served by this aerial cable to warrant placing a 200-pair cable, the 200-pair cable would be placed originally at a cost of 86 cents per foot. If somebody simply guessed at what was required in that section of the city and said a 100-pair cable would serve, then, at the end of the year they might have to place the second

100-pair cable. That, I think, is a good example in a small way of the economies which can be effected by intelligent engineering. Of course, there are many large problems in a multi-office exchange, such as is Houston, relative to the location of Central offices and things of that sort, and the time when central offices shall be established, etc. which are big, and which if the engineering is carefully done means great savings. The engineers make a study as to how much construction should be placed in any given territory, and then after they have made their study they draw up the plans and specifications of how that work should be done, the working plans, the detailed plans, we have general specifications which cover the work in a general way. Their duties are not ended when they make up those plans, they do not just turn it over to the construction people and they say "Here are the plans, do it in this manner", but after the work has been completed they make inspection to determine that it has been properly done,

and makes the Construction Department correct any defects in like manner as we would make a contractor correct any defects in the case of building construction. They make inspection of the building while the construction is in progress. I have not included anything in my unit cost, and in figuring the cost of reproducing this physical property heretofore in engineering.

The next item of expense is "General Expense." I have used two per cent of that would amounts to \$99,741.00.

2661 The Interstate Commerce Commission in their Uniform System of Accounts on page 74 of the issue of January 1st 1913 defined "General Expense" as follows: "General office salaries." (That is salaries of general officers). This account should include the salaries of the Chairman of the board, President, Vice-President, Secretary, Treasurer, Comptroller, General Auditor, General Manager, General Superintendent and all other officers whose jurisdiction extends to the operations of the company as a whole". This is defined "General Expense." If I may explain a portion of the general expense is charged to the cost of construction, that is to the capital accounts. A portion of the general expense is charged to the maintenance account, a portion of the general expense is charged to the operating accounts; that is subdivided in that way.

This two per cent that I have included here is not general expense, that two per cent is that portion of the general expense which would be chargeable to the capital accounts. In other words that is the amount of general expense which is incurred in making entirely new construction. The general expense as a whole is greater than two per cent. We have other general expense in connection with the operation and maintenance of the plant, but that is not included in this. I take this figure of two per cent because that is what our general expense has been costing us for some years in connection with construction work. That is confined solely to new construction.

#### Cross-examination.

2662 Questions by Mr. Howard:

The Interstate Commerce Commission sets up how we can keep our accounts, and to what different items shall be charged. They have a general heading as to the expenses. This particular heading is "General Expense" and then they go on and prescribe how that General Expense shall be charged. General expenses include the officers of the company, from the general manager, on up including the legal department, and the president of the company, the general auditor, and other similar people, also including the clerks which they have in their offices, the rent for their offices and other similar expenses. This two per cent is two per cent of the estimated reproduction cost of the physical property. The Interstate Commerce Commission in their Uniform System of Accounts does not in any case say how much of the general expense or engineering or other expense shall be charged to any account. A certain portion of the general expense goes to construction. I have fixed that in this case,



at two per cent, in that that is the amount of general expense which has been charged to construction for a number of years by our company.

"Q. What is your two per cent here based on, in your set up?"

"A. It is two per cent of \$4,987,038.00."

"Q. You have applied the two per cent to the entire construction instead of to the general expense, haven't you?"

"A. No sir, this general expense which we are applying——"

"Q. (Interrupting.) How is that?"

"A. This general expense which we are applying to construction, this is a portion of the general expense."

2663 I have explained what general expense is. It being the expense of the general manager and other officers of the company, vice-president, president, their clerks, office forces, etc. That is what general expense is, also the legal expense. A certain per cent should be charged to construction account, and in this instance I have applied two per cent of the estimated reproduction cost of the physical property. That is what the Interstate Commerce Commission provides that the general expense shall be estimated in a fair way to the different accounts, one of which is the construction account. The summary sheet shows that I have applied two per cent of the cost of the physical property, two per cent of \$4,987,038.00 as being the general expense which would be incurred in connection with the reproduction cost of this property.

"Q. Now, why do you do that now, Mr. Hoag, there are certain general expenses that you have defined, such as the salary of the president, the salary of the clerks, the salary of the attorneys and the salary of the engineers, a certain general expense?"

"A. Yes sir."

"Q. Then a part of that is what goes to construction account, a percentage of the entire cost of construction?"

"A. Yes sir."

2664 "Q. Where do you get any foundation for applying a certain part of the entire cost of construction and adding it to the construction account?"

"A. I have previously stated that for a number of years the general expense incurred by our company has equalled two per cent of the cost of construction, and I have therefore applied two per cent of the cost of construction in this case."

"Q. For instance now, you take a—well, we are building this building here at \$300,000.00, what is two per cent of \$300,000.00?"

"A. The application of general expense to a particular class of plant cannot be made. It has to be made to all of the plant as a whole, in like manner as does the engineering expense, and contingencies and omissions."

Our general expenses are a fixed definite amount, but they vary from month to month, of course, they cost a certain amount of money each year, and that amount of money is spread over opera-

tion and construction. I did not say a moment ago that in my judgment two per cent of that general expense should — allocated or charged to the construction account, I did not say that.

"Q. Well, that is the thing we are trying to get pro rated and charged to the proper account, isn't it, is the general expenses in the construction cost?"

"A. Yes sir."

2665 "Q. All right then, let's keep to the text of the thing that we are trying to get apportioned. We are trying to apportion the general expense to certain accounts?"

"A. Yes sir."

"Q. Now then, if you didn't say two per cent a while ago should be carried to construction account, what part of that general expense should be carried to construction account?"

"A. My statement a while ago was this: That for a number of years the amount of general expense which has been charged to construction has equalled two per cent of the cost of that construction."

And that would not be regardless of whether we constructed a million dollars one year and fifty thousand the next. We are charging a certain per cent of the general expense to the construction account, and that amount of general expense which has been charged to the construction account by our company for a number of years has equalled two per cent of the cost of that construction.

"Q. But why bring in the construction item at all. We have, got fixed, definite, general expense, such as your President's salary, and such as your legal expense, and we know what they are. Then we know that a certain part of that should go to operating and the greater part, that is the part that these officers' time is taken up largely with, the operation of their plant, the business as it goes on from month to month, and from year to year, that is in the  
2666 operation of their plant, that is where their energies are largely concentrated."

"A. No."

"Q. Then, if you figure out how much goes to maintenance, how much goes to construction, how much goes to the other sub-heads, that may be set up and then in your judgment, how much of that should go to the construction account?"

"A. The amount which I have shown here and which I have previously explained."

"Q. Why should it vary at all?" You have got those fixed charges that follow through the year, and what difference will it make what *what* part of any year this construction is done, those charges are fixed, those officers are there to serve every year, and if they construct five millions or two millions in one year, it don't tend to increase your general expense?"

"A. I might——"

"Q. (Interrupting.) Does it, Mr. Hoag, it don't tend to increase your general expense one dollar, does it?"

"A. No sir, but I will explain that. During any period of time, when a large amount of construction work is under way, then the percentage as applied, that is, the amount of general expense as applied—

"Q. (Interrupting.) Well, why—

"A. Well, if you will let me explain it, I will tell you why.

"Q. Let's see that we keep together. You have already  
2667 stated that regardless of the amount of construction in any particular year, the general expense remains fixed, that's true?

"A. The general expense remains fixed, but the percentage as applied to construction or to maintenance or to operation varies in proportion to the amount of construction and the amount of operation and the amount of maintenance."

"Q. But if I get you now, in valuing these plants, you have got a lot of officers whose salaries will run \$60,000 in a certain year, and they will run that way whether you build two million or five hundred dollars of construction that particular year. That expense is fixed. You have got that as a fixed expense. Then you must have that expense regardless of whether you construct one million or two million in a certain year, that is a fixed charge that you can't get rid of, then if perchance one year you build two million dollars of construction, then you take away from that fixed charge that's go to be paid, you take two per cent of that or a certain per cent of it, you charge a certain per cent. or a greater per cent of it up to construction. We are going to assume that these men are busy with construction and we will charge it up to construction, although you haven't spent a dollar of expense, that you haven't spent a dollar more—

Mr. D. A. Frank: I object to his question because he is talking about something entirely different from what the witness is.  
2668 This is a reproduction theory, and this is an estimate by the witness as to what the general expense would be in reproducing this property; in other words, the question of general expense in a reproduction figure is the estimate by the witness of what the expense would be for general expense regardless of the present organization, that is to say, that there would be general expense here if an individual started out to build this plant here, he would have that expense regardless of whether the telephone company has it or not, so that it is immaterial how the money is charged up.

Mr. Howard: If you carry that sort of thing in and ask to make a return on it, I will discontinue my examination, if you ate asking that your return value be augmented by that sort of thing, I withdraw it, and I won't pursue the examination any further.

Mr. D. A. Frank: The light seems to be breaking in on you.

Mr. Howard: No, if that is this utility's idea of fairness to the public, I withdraw my question.

Mr. D. A. Frank: It is not a question of fairness, every engineer that makes a valuation always makes a valuation of what this—

Mr. Howard (interrupting): You rose to an objection and  
2669 I have withdrawn same.

Mr. D. A. Frank: Well, but you have some innuendo in your withdrawal.

Mr. Howard: Well, the fact is, I have withdrawn it.

Mr. D. A. Frank: Well, the fact is, that it is always charged, it is a legitimate charge.

Mr. Howard: That's all.

Redirect examination.

Questions by Mr. J. D. Frank:

It is a fact that we would have this expense if we started in to reproduce this exchange, it would require a certain amount of time of the officers of the company, and I know from actual experience in the telephone business in the past that it has actually cost equally that much to do construction work.

The next item is furniture and fixtures. I have taken \$19,894.00 as the figure in my appraisal to represent the cost of reproducing the furniture and fixtures in connection with the Houston Exchange. That is shown in detail in my appraisal. The summary is shown on page 191 and the detail is on the following pages. The 2670 items included are those as listed on page 191; first, the local furniture and fixtures; the second item is the district furniture and fixtures; that has been excluded in that those furniture and fixtures are not used in the Houston Exchange. They are located here in Houston, but are not used for the Houston Exchange, and therefore I have excluded it.

The third item is the Division office furniture and fixtures. Only that portion of the Division office furniture and fixtures has been included which is used for the Houston Exchange.

The next item is the proportion of the General furniture and fixtures in the general office at Dallas, chargeable again to Houston Exchange, the Houston Exchange representing approximately 14 per cent of the total telephone property in the State, and this figure of \$7,412.40 is 14 per cent of the total cost of the general office furniture and fixtures. I get a total for furniture and fixtures of \$19,894.21 which is item No. 6 on the summary of the appraisal sheet.

The next item, No. 7, is tools and store equipment, and I have charged up \$11,638.00 for that item. That is shown in detail in my appraisal at page 264.

To show how I arrived at that figure, I might read this if I may, it explains fully. An inventory and appraisal of the tools and store equipment actually in Houston was made, but as these are 2671 not used exclusively in Houston, and as others in the State are available for use in Houston as well as elsewhere, we have taken a proportion of the tools and store equipment of the State applicable to Houston on the basis of the ratio of the book value for the State to the book value for the Houston Exchange. At the time I made my inventory there were something like \$8,000.00 worth of tools on hand in Houston. I have included in my appraisal \$11,637.54, and that is explained thus: Any of

the tools in the State of Texas are available for use in Houston. In like manner any of the tools in Houston are available for use anywhere in the State. At the time the inventory was taken in Houston, there were a considerable amount—a considerable quantity of tools generally used in Houston that were being used in other places in the southeast Texas Division. At times we will have as much as twenty or twenty-five or thirty thousand dollars' worth of tools in Houston, depending upon our activity; at other times we will not have as many.

If we didn't have these tools available for use in the various exchanges we would have to have all these tools in Houston, and it means a considerable economy insofar as the tool expense is concerned. If we had taken an inventory of this property in 1915, after the storm down here, if it had been taken at the time of the storm, or immediately after the storm, we would have had forty to fifty thousand dollars' worth of tools, in that we shipped in tools from all over the State to handle the work incident to re-  
2672 storing the service and rehabilitating the plant.

Cross-examination.

Questions by Mr. Howard:

"Q. Those tools would cost you a great deal more now, wouldn't they, than when you bought them?" I say, the reproduction value is a good deal more than the tools actually cost, is it not?"

"A. No sir, I have previously explained that includes all furniture and fixtures, tools and store equipment—"

"Q. (Interrupting.) Well, if you say no, that satisfies me."

"A. (Continuing:) And stable and garage equipment."

Redirect examination.

Questions by Mr. J. D. Frank:

In other words I haven't figured the cost of reproducing these tools, but have used the actual cost of them as shown by our records.

The next item is stable and garage equipment, and I have included for stable and garage equipment \$10,219.00 and that is shown in detail in my appraisal beginning on page 286. I set out in those pages just what stable and garage equipment we have in Houston

that is used for the Houston Exchange. We have stable and  
2673 garage equipment located in Houston, which is used outside of Houston, and is not included in my appraisal. I have not estimated the cost of reproducing this stable and garage equipment, but we have taken the actual cost as shown by our records.

Mr. Frank: Why have you taken the actual cost of your stable and garage equipment, your tools and your furniture and fixtures.

Mr. Howard: We'll admit your item there, Mr. Frank, we'll admit the value is correct.

Mr. J. D. Frank: All right, sir, I will withdraw the question.

The next item is taxes during construction for which I have included \$101,720.00. That covers the taxes that would have to be paid on the physical plant during the construction period before the plant as a whole was completed. On page 2 of the appraisal and also page 3 is shown the amount of money which would be expended by quarterly periods during the construction period. I have taken three years as the construction period, which in my opinion would be the most economical period for reconstructing the plant.

On page 2 the first item is \$235,118.00, that covers the purchase of the land in the first quarter of the construction period. In the second quarter an expenditure of \$147,854 for underground 2674 conduit, and an expenditure of \$5,040 for right of way would be made. In the third quarter expenditures would be made for buildings, underground conduits, right of way, tools and store equipment, stable and garage equipment, the total of those would be \$374,546. The expenditures are built up in that manner throughout the whole three year period, and on page 3 the total expenditures for the entire period is shown as \$5,128,530. On page 5 is shown a recapitulation of the expenditures for plant during the construction period, divided by quarters; also is shown the average amount of physical plant in place by quarters, and the amount of taxes which would be paid on the physical property. My estimate is based as to the amount of taxes upon the actual taxes paid for Houston for the year 1919 which amount is \$73,237.38 which covers State, County and City ad valorem taxes, and in addition covers the salary of the telephone inspector employed by the city, but paid for by the telephone Company. It also includes a franchise tax and a special school tax. I haven't the detail of that here, but those two items amount to some \$3.035. This does not include the Federal taxes, and of course, there being no income, it does not include gross receipts taxes, because you have no gross receipts,—this is a property tax wholly.

The reason I have included such an item as that in my appraisal is because the money would have to be spent, that is, the taxes would have to be paid from year to year, as the plant was completed, as it was constructed, and those expenditures have been added to 2675 the cost of reproduction. I have made my estimate on the taxes which have actually been paid, and it is customary to make an allowance for this item. Engineers usually make an allowance of that kind, and it is also made by Commissions.

Cross-examination.

Questions by Mr. Howard:

I applied to these values the taxes assessed under the laws of the State of Texas, and this municipality.

Mr. Howard: Then, if the law of the State of Texas and the City of Houston have assessed these taxes, assess- taxes only upon property on hand at the beginning of the year, you wouldn't apply it to this, would you?

Mr. Hoag: There is one error on page 4 that has been made in



building up the taxes paid. It was assumed in this study that these taxes would be paid by quarterly periods and as a matter of fact what you say is so. They would have been paid at the end of the year covering the amount of property on hand at the beginning of the year, and that error which I discovered day before yesterday means that we have included in this amount of \$101,720 for taxes a sum of \$4,000 which would not actually be paid, and that total is wrong to that extent, \$4,000

It is set up by quarters on page 4. We have assumed that  
2676 we would pay for the first year, taxes in the amount \$420.00, but those taxes would not be paid, or rather we have assumed \$401.00 for the first quarter, \$1,090.00 for the second quarter, \$2,016.00 for the third quarter and so on. Those taxes would not be paid until the first of the year. Those taxes would have been paid at the beginning of the succeeding year because that property would be on hand, on the first of January. That first year the taxes as shown would be moved up one year and the second year would also be moved up one year. I will go over that computation and check it carefully. This has not been based on an assessment at full valuation. We simply assumed that we would pay the same taxes as we actually paid for the year 1919 regardless of what the assessment was. I will re-compute that item on the Texas mode of assessing taxes.

Redirect examination.

Questions by Mr. J. D. Frank:

I will go over that and then take the stand at a later date and straighten out that error on page 4 in the appraisal.

The next item in my appraisal is interest during construction, and I have included for that item, \$453,360.00. That is shown in detail on page 5 of my appraisal. On page 5 is shown the quarterly addition to construction, and the average amount of physical property in place by quarters, and the interest was applied to those  
2677 average amounts. That is carried through for the three year construction period. The first quarter we would have \$235,519 expended, and we have assumed that we would have that expenditure for half of the period, and have therefore taken the figure \$117,760.00 as representing the average amount of physical property in place for that quarter, and have applied to that interest at the rate of six per cent per annum. In other words we have not assumed that all of that property would be in place throughout the first quarter, but the property is built up as time goes on.

The reason I have taken six per cent as the rate of interest is on account of the four and one-half per cent licensee contractual arrangement which the Southwestern Telegraph & Telephone Company has with the A. T. & T., the Southwestern can get money from the American Telegraph & Telephone Company at 6%. In other words, I don't think we could go into the open market and get that money at 6%, and therefore I consider that figure conservative. The last quarter I treat in the same manner as the first quarter. During the last quarter we would add to the construction a total of

\$161,776, and that has been divided and added to the average amount of physical plant in place, as built up during the previous quarters, so that during the last quarter we would have in place \$5,149,362.00 worth of plant, and interest on that at the rate of six per cent would be \$77,240. I show as the total interest during construction 2678 ing construction \$453,360.00.

I have made a very careful study of how this money would be expended and when it would be expended, and that is shown in detail on pages 2 and 3, starting with the three year construction period, which I have considered as being the most economical period of time in which to reproduce this property, in that if a longer time was spent in reproducing the property the money invested would be lying idle, would not be earning anything for a greater period. And a shorter period would mean the expenditure of considerable amounts of money in that a great deal of overtime work would have to be done. During the first quarter of this three year period, in this study I have assumed that the land would *would* be purchased. That would necessarily have to be first, in that, until the land was purchased the building could not be designed, and neither could the underground conduit lines be laid out, or any of the construction work started. During the second quarter a very considerable amount of conduit material would have to be purchased, and tools and store equipment purchased, and stable and garage equipment purchased. During the third quarter it has been assumed that previous to the third quarter, during the first and second quarters, immediately after the land had been purchased that architects and engineers had made up the plans for the building, and that the work of constructing the building had been started, and it was assumed that during the third quarter a payment would have to be made on the 2679 buildings, in that a portion of the building construction would be completed. It is also assumed that a considerable amount of pole material and pole like work would be completed during that quarter; that underground conduit work would be continued, that additional expenditures would be made for rights of way, and that other tools and store equipment, stable and garage equipment would be purchased, in that they would be needed as the construction work increased. A second payment on the building was assumed for the fourth quarter, and a considerable amount of pole work, aerial cable work, underground conduit work, and other work would be done during that period. I have worked that out as to all of the other quarters. I have carefully made these estimates as to how much money would be spent during each quarter, and just where it would be spent. In preparing these estimates a skeleton lay-out was made, a pencil lay-out, to show how the work would proceed, when the material would be ordered, when it would be installed, covering each class of plant, and these expenditures are based on that careful study. I have not assumed that I would have to have all the money at the beginning of the construction of the plant, but we have assumed that we would get the money from month to month as it was required, and on page 5 we have plainly shown we have only charged interest on the money as it was ex-

2680 pended. In other words we haven't included any item of interest of any money which might be lying idle. This interest during construction is not confined to money expended on the physical property itself, there are other expenditures made than the expenditures incident to the construction of the physical plant, and in this particular study the interest is confined to those expenditures made for constructing the physical plant.

#### Cross-examination.

#### Questions by Mr. Howard:

I think it would take three years to build a plant like this. That is a matter of judgment, based on a very considerable amount of experience. I have assumed in this study that the construction would be carried on simultaneously. That is, while the building would be being built that underground conduit construction would proceed, and while the central office equipment was being installed in the buildings after they would be completed, that underground cables would be installed, pole lines constructed, aerial cables placed. The buildings certainly could not be designed and completed in less than one year. The manufacturer of the central office equipment after the order was placed,—and that order could not be placed until after the land was purchased,—could not be completed in less than a year. There is always some delay in connection with land purchases. Before this land could be purchased, we would have to make a study and determine the location on which we would wish to purchase the land. I have never built a plant like this up at one time, from the ground up in a city of 150,000 people, not a 2681 plant of this size, and I never saw one built complete. It has never been done to my knowledge. The whole thing is an estimate, but I would not say that it is a guess, but it is based on a very considerable amount of experience and good judgment, it is not a guess. I feel very sure that if I was called upon to reproduce this plant that I could do it in just the way that I have outlined in this study. Taking your assumption that this town had been behind the times, and had no telephone service, and I started in to give it one, I would go ahead and build the plant up to the very last finishing touch before installing any telephones, or furnishing any service. We would begin to install telephones in about the eighth quarter, that is, during that period we would begin to place the private branch exchanges and that type of station equipment which requires a considerable time to install. Then, in the ninth, tenth, eleventh and twelfth quarters we would be installing telephones and other station equipment. We would not begin at all before the eighth quarter, and would not provide any service until the end of the construction period,—no service at all. It would not be practical to build the plant in units so service could be furnished, and we couldn't furnish service at all until the whole thing was completed, because we couldn't operate a switch-board that wasn't connected up and that wasn't completed. We couldn't oper-

2682     ate a switch-board without a storage battery, and all the other apparatus. Of course this plant we have here now took over three years to build, and we never discontinued service at any time. It has required some twenty-five or thirty years to build this plant which we have at present. As a matter of fact we have reconstructed this plant several times during that period. We started in with a small magneto switch-board and then installed a larger one, and again a larger one, and later installed the common battery, and later we installed a branch office; that is in addition to the down town office we installed one in the residence district, and later we installed another, and we expect to continue in that manner. To reproduce this plant as a whole there is no practical way of furnishing service to the people in less than three years, the whole thing would have to be built first, reproduce the Houston Exchange.

"Q. You mean if you were just starting out to see how much it could be done for, and were just concerned with it as you are now, as a theory, to see how much it would cost to reproduce it, it would be done that way, but I am talking about a concern that is not theorizing about it, but honestly wants to go to work to replace the telephone plant with a view of making money. How would they do it?"

"A. In identically the way in which I have built this up."

2683     The time could not be shortened. Anybody who was reproducing this plant other than the Bell Telephone Company probably would take from four to five years, in that they haven't the efficient organization. This estimate is based upon the Bell Telephone Company's managing it, on the Southwestern Telephone Company reproducing the property. This property might be reproduced in two years, but to reproduce it in two years would cost a very considerable amount of money. I doubt whether it could be reproduced in just two years. It might be reproduced in two and one-half years, but the building could not be completed, the equipment manufactured and installed in less than two and one-half years, but to complete it in two and one-half years would mean working probably three shifts of men, twenty-four hours a day, or mean working two shifts twelve hours a day. The total working time would have to be extended to twenty-four hours instead of eight, and that would require three shifts of men. It would mean excessive cost for all the work which would hardly be justified.

"Q. I see you figure this interest at three per cent, the average time, 6 per cent per annum, on account of the A. T. & T. Company's beneficial services enabling you to borrow money at 6 per cent. It wouldn't be any trouble to get money at six per cent in this community without the good offices of the A. T. & T. Co., would it?"

2684     "A. My best judgment is that a business of this sort, paying the nominal returns which a telephone company does pay, could not even be financed in this State, in that money in this State in general, I am advised, earns more than 6 per cent. I am acquainted with, and have talked to banking people, and business people—

"Q. (Interrupting.) You proved here yesterday that the prevailing rate is six per cent?"

"A. That is the rate on certain classes of loans."

"Q. These are good loans with the A. T. & T. and the Bell System behind it, it would be a pretty good loan, pretty good security, wouldn't it?"

"A. It means the expenditures—investment of some seven million dollars and I have not included in this appraisal any brokerage fees, any promoting fees or anything of that sort, and those expenses would certainly be incurred, which I have not included in this appraisal. Those expenses would certainly be incurred in case the financing was arranged outside of the Bell Company, and would in effect increase the interest rates on the money.

"Q. It would increase the bonuses that the men who financed it would get, wouldn't it, and they are usually financed by the parent concern, by the mother of them all. She usually looks after them, and furnishes this money. It would just go to enlarge her profits a little bit."

"A. I don't know just what you are referring to."

"Q. The A. T. & T. Co. owns the whole thing?"

"A. It is my understanding they own most of the stock."

2685 "Q. They own this company?"

"A. Most of the stock."

"Q. When you talk about the Southwestern Telephone Company doing this, and the A. T. & T. Co. doing that, it is like a man taking money out of his right-hand pocket and putting it in his left-hand pocket, because he owns the money in both pockets?"

Mr. Frank: This is an argument on the law; a legal conclusion.

"Q. Eliminating this quarter method that you have set up here, this question of quarters you set up, approximately will this amount to six per cent upon one-half of the period of construction?"

"A. Approximately, yes sir. Something less than that. There are two ways of figuring that interest. One would be to take the mean time, that is one and one-half years and apply nine per cent interest to the total money. The other thing to do is what I have done in this case, and apply the interest as the expenditures were made. The greater amount of money is spent in the latter portion of this three years, so that will result in a little lower interest charge than would be the case if the mean time were used. This seems to be the fairer way of applying it."

Redirect examination.

Questions by Mr. J. D. Frank:

2686 We could install those telephones earlier than the eighth quarter, but it would not be desirable, in that the telephones would be installed in the business houses and residences and other places and they would not be in service and would be damaged. It would not be good economy to install those telephones along the first, second or third quarter, in that a considerable number of them would be installed where they would not be later used, people mov-

ing and business changing, and in addition to that we would have to be charging up interest on that work while it was lying idle. In estimating the time it would take to reconstruct this property I proceeded on the theory that I wanted to get the exchange to operating as soon as possible in order to begin to derive revenues from it.

This property could be reproduced in two and one-half years, but in my judgment it would cost more to reproduce it in that time than it would in the three year period, and also we would not get as good a job. In order to reproduce it within that short length of time, we would have to work men at night time, as well as day time, and when we work men at night, we have to pay them time and a half for overtime, and also we would have to ship in a considerable number of skilled men. We would have to have more men on the job than we would have if we did the work in the three year period, and that, of course, would entail considerable expense. We would have to make special arrangements for lighting to work outside at night, and do many other similar things. In my best judgment an independent engineer or construction company could not come in and reproduce this in three years, and I doubt whether you could get a contractor or engineer to take the contract to reproduce this property in less than four to five years. Basing my judgment on my twenty-four or twenty-five years of telephone experience, I would say that three years was the least possible economical period of time which even the Southwestern Telegraph & Telephone Company, with its organization, could reconstruct this plant.

Page 1 of my appraisal shows that the total reproduction cost of the physical property is \$5,683,610.00.

Up to this point I have valued or appraised the physical property only, and in my appraisal of that physical property I have not included any increment because the property constituted and assembled and established plant doing business and earning money. I have not included anything other than the cost of the physical property.

The next item in my appraisal is item No. 9 of the first page of the appraisal, "Cost of Establishing Business", or "Going Value".

In what is known as the Houston Exchange in addition to the fair physical plant, the company also has property which is just as costly and just as valuable. We have the records of our property, of the accounts, we have our routines, we have specifications, we have our subscribers, thousands of contracts, and thousands of accounts have been opened, we, in addition, have an organization of some 665 skilled employees working harmoniously together and rendering service. In making my appraisal I consider that it would cost more to reproduce the Houston Exchange than the cost of the physical plant. I have estimated the cost of establishing business, or going value at \$992,881.00. I have an exhibit which shows how I arrived at that figure.

Mr. Duls: We'll introduce that, Your Honor, as an exhibit, Plaintiff's Exhibit No. 21.



(The document was thereupon received in evidence and marked Plaintiff's Exhibit No. 21, and said Plaintiff's Exhibit #21 is transmitted herewith in Exhibit File.)

The first six pages of this exhibit covers in a general way what would have to be done to establish the business. For convenience in determining the cost, the period of establishing the business has been divided into three parts, (1) the preliminary period, (2) the construction period, and (3) the development period. The preliminary period, the detail is shown on Page 1 of the exhibit, and the summary appears on page 7. I am now talking about "A" on page 7, and pages 8 and 9 represent the detail of "A". I arrived at an amount of \$12,280.00 as the total expenditures during the preliminary period. On page 8 is shown the expenses during the preliminary period, the expenses first covering the preliminary investigation, and second, the legal expenses. On page 9 that is detailed.

In making this preliminary investigation I could not take any ordinary man off the street and set him to work on it, but I have estimated that it would require three experts, that is, three first-class telephone men. Those men would have to be something more than telephone engineers, they would have to be high-class trained telephone men. I have arrived at \$7,280 as the cost of your preliminary investigation as made by those men and by their assistants.

I have another item under "A" detailed legal expense, and the detail of that is shown on page 10. I have estimated that the total legal expense would be \$5,000. That expense would be incurred by attorneys who would have to confer with the city authorities to obtain and draw up a franchise, to draw up and file a charter, and to furnish general legal advice in matters of organization and so forth. I would have a seven million dollar corporation to reproduce, and I have arrived at the attorney's fees of \$2,500.00. I arrived at that after conferring with our legal department, and we estimated that as being a conservative amount of money that that expense would cost. That includes expense of organizing the company, and obtaining the franchise and things of that sort.

I arrived at the charter filing fees by a letter written to the Secretary of State at Austin asking what the charter filing fees would be for a six million dollar concern. The Secretary of State advised that a fee of \$2,500.00 would be made, and in addition to that about \$1,500.00 would be charged as a franchise tax. I have not included in this exhibit anywhere any other sum for obtaining a franchise.

Now, the second period, the construction period. That is shown as item "B" on page 7 and covers the expense during the construction period, which includes building up the organization, attaching the business, maintenance and a reserve for replacement. The pages from 11 to 20 inclusive show how I arrived at the figures for that period, and page 11 gives the summary. I arrived at a total of \$493,939.00 as the amount of expense that would have to be incurred during the construction period. In my judgment a man who was reproducing this exchange or a company that was repro-

ducing this exchange, would have to make provisions for that sum. In other words it would be a part of the capital that he would have to provide in building the exchange. This all represents money which would be expended during this period in establishing the business.

I will now take up the different items that enter into this period and explain how I arrived at the cost for the different elements. Item No. 1 on page No. 11 is the cost of getting subscribers. I mean to say by that that it costs money to get subscribers here in Houston. That is explained in some detail on page 12. The cost of getting the subscribers is made up of advertising, canvassing and expenses incident to the making of the contracts for the service. That has been estimated at \$4.00 per station, and that was based on records kept by the Commercial department of the company as to the cost of securing subscribers. That is based on actual cost record. I have arrived at a total sum for the cost of getting subscribers during that period of \$53,888.00, and the details of the cost of getting subscribers is shown on page 12.

The second item on construction period expense is "Building up of the organization". I allowed \$45,434.00 for that and the details are shown on page 13 of the exhibit. It costs a very considerable amount of money to build up an organization. If I were going to reproduce this property I would have to have an organization to operate it. We are actually spending money at the present time building up our organization. We are continually training operators and the cost of training operators averages \$65.00 each in Houston. To train operators we have to maintain instructors and schools and when a young lady is first employed, she couldn't of course be placed and trained at the switch-board. She couldn't answer calls, couldn't complete connections, and she has to be put through the school and taught how to operate. By school I mean that we have a teacher there and other operators that show these young ladies how to operate and train them so that they will be efficient operators when they go on the board. We have a school principal. We have special rooms, we have dummy-switch-boards, we have instructors, and it cost money to train those people as part of our organization. It would cost money if I was going to reproduce this exchange, and we would have to have capital provided to take care of the expense of training those employees. The details are shown on page 13.

The next item of expense is item No. 3. "The development of Records, Routines, etc." I mean to say that we would have to have records and routines if we were reproducing this exchange, we would have to have a considerable number. I have a few such records and routines here. These that I show you are the plant's instructions, they are routines and instructions. I also have an exhibit listing those records and routines. These records and routines are essential in the operation of a telephone exchange, we could not carry on an exchange without such records and routines. The details of how I arrive at the cost of reproducing these records are shown on page 14 of the exhibit.

Mr. Duls: Before we go into that the details of that, I want to introduce, Your Honor, as Plaintiff's exhibit No. 22. This is an exhibit which lists the routines and instruction. Some of them,

I understand, would be necessary in operating an exchange.  
2693 We introduce that as Exhibit #22. And this lists the records which are essential to the operation of the exchange and we offer that as exhibit #23.

(Thereupon said exhibits were received in evidence, and marked Plaintiff's exhibit #22, and Plaintiff's exhibit #23, and said plaintiff's exhibit #22 and #23 are transmitted herewith in Exhibit File.)

I have estimated that the cost of reproducing those records and routines is \$9,500.00. Some of the details of which are shown on page 14. That estimated cost of reproducing those records and routines, we considered because of printing, the cost of distribution, the cost of making forms, etc. As a matter of fact, to originate all of those records, bulletins, etc. would probably cost fifty to seventy-five thousand dollars. In my allowance for this item, developing records and receipts, I have allowed an amount which will take care of the printing and distribution of the records and routines, on the basis that the Southwestern Telephone Company were reproducing this property, and that they had already done all of the preliminary work, all of the work necessary to originate all of these records and routines. In other words I have not included any amount for the origination and inception of the records and routines. Those records and routines were in part originated by the American Telephone & Telegraph Company, and in part by the Southwestern Telephone Company. There are general records and routines  
2694 which are applicable for all telephone companies. There are others which are prepared and used only by certain companies. That is a part of the service which we receive under this four and one-half per cent payment. If I were reproducing this exchange I would have to have these routines and records.

The next item of expense during the construction period is No. 4. the first directory cost. We would have to have a directory to operate an exchange the size of the Houston Exchange, and I have allowed \$3,000 for that. The details of that are shown on page 15. I conferred with our directory department, and they gave me the figure of \$3,000 as being a most conservative estimate of what the cost of issuing the first directory would be. I have allowed that directory expense in the twelfth quarter because the directory would not be required until that time. I have divided this up into twelve quarters just as I did in taking the three years construction period, and estimated the interest during construction.

The next item is No. 5, general supervision, and that is explained on page No. 16 of the exhibit. The total amount that I arrived at for that expenditure was \$11,131,000. This item is an item of capital expenditure that the company reproducing this exchange would have to incur aside from any cost connected with the physi-

cal property, and that has been so explained on page 16 of  
2695 the exhibit. I have said that on maintenance this expense  
has already been included in connection with the other items.  
There is no duplication of this general expense.

The next item is No. 6, "Plant Maintenance". The details of that  
are shown on page 17. I have allowed as the total amount for main-  
tenance \$68,370.00. I might explain that maintenance on a tele-  
phone plant would start at the time the various classes of plants  
were installed. The maintenance would not be as high on a plant  
not in operation as it would be on one that was in operation, and  
in arriving at this maintenance cost, the fact that this plant would  
not be in operation has been considered, and the maintenance cost  
reduced accordingly. That amount is a capital expenditure that  
would have to be met during the construction period. The prop-  
erty would not be operating or it would not be earning.

The next item of expense during the construction period is item  
No. 7 "Reserve for Replacements." The total amount allowed for  
that item is \$283,119.00, and the details are shown on pages 19 to  
20. The reserve for replacement has to start as the various classes  
of plant are completed in like manner as does the maintenance.  
Item No. 8 is the amount of interest which has been applied. That  
totals \$20,007.00. The interest has been figured at six per cent per

annum, based on the quarterly expenditures. There is no  
2696 duplication in that. The interest that I allowed in the  
previous case was on the construction of the physical prop-  
erty, on the money expended in the construction of the physical  
property. This is money expended in the establishment of the  
business, so there is no duplication here in having another amount  
of six per cent during the construction period. To sum up I have  
found \$493,939.00 as the total amount that would have to be ex-  
pended during the construction period in establishing the business,  
that being item "B" on page 7 of the summary sheet.

The third period is period "C," on page 7 of the exhibit, the  
"Operating Deficits during the Construction Period." That total  
amount of deficits is \$486,662.00. It has been found that in the  
establishing of telephone businesses that the normal number of tele-  
phone subscribers are not secured for a period of some two to three  
years after the business was then established. That has been the  
experience of everybody who has been engaged in the telephone busi-  
ness who has had to do with the establishing of telephone businesses.  
I have taken the two-year period as being the period required to get  
the normal number of subscribers which we could expect in this  
exchange after the end of the construction period. Those subscribers  
would come in 75 per cent of the total in the first year, and 25 per  
cent in the second year, so that, I estimate that at the end of the  
second year of this development period after I had begun operation  
that I would have a total number of subscribers of the exchange. The

2697 details of my figures are shown on the remaining pages of the  
exhibit beginning with page 22. Page 22 shows in detail the  
operating deficits during the two year development period.  
I mean by "Deficit," I mean by that "Operating deficit." The

deficit is that amount of money, is the difference in the amount of money between the revenues earned by the exchange and the expense plus a return on the investment. During the development period, the expenses exceed the revenue.

I have used an eight per cent return because that is considered as the minimum return which should be earned by a business of this kind. I took eight per cent because it is the least amount that should be earned in an enterprise of the kind, the Telephone Company is. That represents my best judgment as to what this business should earn.

On page 37 of the exhibit I should like to read: "We are seeking to determine the deficits during development period which would be incurred in reproducing the Houston Exchange. The deficits are computed as the amounts per quarter by which the Exchange during the two year development period falls short of earning at the rate of eight per cent.

"If in our calculation of gross revenue for the several quarters during this development period we take as a basis \$795,937, the actual revenue of the Houston Exchange for the first three quarters of 1919, it would produce abnormal development deficits, for those 2698 revenues are abnormally low, being derived from rates which with a full number of subscribers would not pay the bare expenses of the Exchange.

"We can work out the normal development losses to be expected in reproducing such an exchange by assuming more normal rates, or a gross revenue which is such that with the full number of subscribers it would amount to eight per cent on the property after the expenses were paid."

In other words we haven't used the actual revenue which obtained during this period in 1919. If we had used that actual revenue, the deficits during this development period would be considerably in excess of those which we have developed. We have assumed that this exchange would make an earning that is, that the rates would be such, so that at the end of the development period at which time the exchange would have the full or normal number of subscribers, that then the revenues would be sufficient to pay all of the expenses, and an eight per cent return on the investment.

These pages in this exhibit, detailed sheets, show the method and also the figures according to which I arrived at my total cost for the cost of establishing the business or "Going Concern Value." Then they can be checked by an auditor or engineer. To sum it 2699 all up then, in my judgment it would cost to re-establish the business, on top of the cost of reproducing the physical plant the sum of \$992,881.00.

Cross-examination.

Questions by Mr. Howard:

The cost of establishing this business is \$992,881.00. This estimate was rather carefully worked out and was not applied on a percentage basis, but the details were carefully worked out. The

details with reference to attaching the business are shown on page 11, the summary of expense during the construction period of three years. No, I do not start out with the theory of reproducing a new plant, and then figure the cost of attaching business a good deal as if the plant is in the course of construction a great many years, but this estimate is an estimate of the cost of establishing the business in like manner as the estimate of the cost of building the plant. It is not a fact that we make prompt telephone connections now, but on the contrary I think in the residence section, in general, some connections are not being made on account of the congested condition of the plant. I mean by congested condition that there is a lack of facilities. During the period of the war as you know, comparatively little construction work was done, but during that same period a considerable growth was experienced, and the spare plant which we ordinarily have, that is, the extra facilities which permit us  
2700 to take care of connection promptly, a great portion of those extra facilities were exhausted. I have no idea now how many applications for telephone installation we have on file, but I imagine we have a great number. I don't know whether many of them have been there for more than a year, I rather doubt that there are any that old, excepting possibly some in the outlying sections where it is a question of building a new pole line, or something of that kind.

"Q. The only conclusion to be drawn from that, that instead of having any cost of acquiring business, you have the cost of keeping away from business?"

"A. You are trying to connect up with this estimate of the cost of establishing business, the business as it exists, Mr. Howard."

"Q. I am speaking now of the particular item of attaching the business, not of the cost you have incurred in developing the business up to this point. Not the proposition that you may run into difficulties in bringing your present plant up to condition, but of the specific thing of attaching or acquiring your subscribers, getting the business."

"A. In connection with this present plant, or new plant?"

"Q. In connection with a plant that is all ready established and ready to go. That kind of plant would be swamped with business, wouldn't it? Assuming that you had no plant, but  
2701 just built your plant now, and it is all nice and brand new and ready to go with the present intelligence of the people in regard to telephones, and the knowledge of the use of them, you would just simply practically have to close your office and hide out to keep from being over-run by subscribers?"

"A. No sir, what would happen is this—"

"Q. (Interrupting.) Your manager now avoids all calls in order to keep away from the insistence of the people wanting telephones?"

"A. You are dealing with the present plant."

"Q. What would be the difference between the present plant and the plant—if this plant burned down or was wrecked in some way, and the telephone service in this town was put out of commission a



year or two until a new plant could be built, your biggest trouble would be the pacifying of the clamor for telephones, wouldn't it?"

"A. What would happen is this: A very considerable amount of people, a considerable number of people would come to our telephone office and apply for telephone service. Those would be the business people who had the greatest need for the service. The first people who would come would probably be the people who had private branch exchanges. To handle those people in the office, it would be necessary to write up the contracts——

"Q. (Interrupting.) I am assuming now——

2702 Mr. D. A. Frank: Let him answer the question. I don't think it fair to break the witness off in his answer.

"A. It would be necessary to establish the accounts; it would be necessary to issue the contracts covering the providing of the service, the type of the service and so forth, and it would be necessary to have experienced men who know, who could determine what those people needed in the way of telephone facilities to render them the service which they required. In connection with private branch exchange installation there are many things that have to be determined. All of those things I have estimated would only cost \$4.00 per subscriber, including in addition to the things I have mentioned, advertising. A certain amount of advertising is always necessary."

"Q. Of course, but in the condition of a reproduced plant—assuming this plant had been destroyed and telephone service had been suspended, the only advertising necessary would be to let the people know the plant is open for business, then they would come swarming, not only the private exchanges, and business houses, but residences all over the city, there would be a general scamper to see who could get their telephone installed first, and the principal trouble would be to receive those applications in an orderly way, and give the service and install the telephones in such way as to keep the people pacified.

2073 "A. To a considerable number of people telephone service is a necessary thing; to a considerable other number of people it is more or less a luxury."

Possibly it is like automobiles, people clamoring for them whether they can afford them or not. There is no question that the attaching of that business costs money, and I have estimated a very nominal cost per subscriber of four dollars. In this method I have reproduced a new plant, physically, in a condition where it is ready to serve. In the same condition as our plant is now serving the public, excepting for the installation of telephones. It was estimated that at the end of the construction period we would have signed up contracts, established records and so forth the total number of subscribers, and then the two years following we would sign up and connect the other half, 75 per cent of that other half to be connected during the first of the two years, and 25 per cent during the second year. We would need the clerks to receive the applications and sign up the blank contracts and enter the names on the books

and would need these special men to determine the proper kind of telephone facilities to provide. I have set up on this particular item \$53,388, based on \$4.00 per station. That comes under heading "B" on page 7, expense during the construction period and includes building of the organization, attaching the business, maintenance and reserve for replacements. That is just during the construction period, and the plant is not in use—not in operation at all. The only replacement that would be necessary would be just such as would come from a year or two's age and the maintenance as I have previously explained would be less than for a plant in operation, and it has been figured less. For the cost of getting up that organization to handle the business, and for attaching the business, although the people would be anxious and clamoring for the service, maintaining the property during that period while it is being completed, would amount to \$493,939.00. I consider that that is a very conservative estimate. Most engineers use a flat percentage figure of 20 per cent. I did not use that 20 per cent because this is a fairer way, a better way of working it out, in that we built it up in detail.

2704 "Q. The next item,—you have been so modest in that \$12,280 item that I will not ask you about that. I don't know what it is for, but will assume it is in there. Under "C" what do you mean by that? You build a new plant, you haven't any particular development period, you have a plant all built, and have it built upon the prices for reconstruction new. Are you assuming now that you are going to lose business?"

"A. The detail of the operating deficits during the two year development period is shown on page 22. That is the period following the three year construction period. I just told you that we have estimated that at the end of the construction period, at the time we opened the exchange, we would start off with a half  
2705 of our total number of subscribers, and then it would take us two years following that to get the full number of subscribers. That is based on considerable experience in opening exchanges all over the country. Men who have had to do with that work estimate two to three to four years to get the normal number of subscribers. On page 22 is shown the way in which those operating deficits build up. The first three months of that two year period the revenue is not sufficient to pay the expenses and pay a return on the investment, and therefore a deficit is created."

"Q. Why do you assume that when you will have all the business that you can do? That is based largely upon the idea that the people have to undergo an initial period of construction and education and soliciting,—educating the people up to the point of the value of the service, isn't it?"

"A. No sir, it is based upon actual experience in the establishing of a telephone plant."

"Q. That is already existing. We are reproducing a plant that is already to start off, and in a community where the people have been educated up to the value of telephones, to the point where they are clamoring for them, and abusing the telephone company be-

cause it don't give them service, and all that sort of thing. Why then will there be any falling off in returns, or a deficit in returns either when you have the business already attached?"

2706 "A. I talked to Mr. R. B. Still, the General Manager of the Gulf States Telephone Company, who has opened telephone exchanges in the last two, three and four years. I also talked to Mr. Blomeyer, of the Texas Telephone Company at Waco—

Mr. D. A. Frank: What position does he occupy with reference to the Texas Telephone Company?

He is the President of that Telephone Company, and I have talked to other men who have had experience in recent years, recent time, in opening telephone exchanges, and that is their experience even though people do know what telephone service means.

That is not where there was a competing line, but of course it was in a smaller town than Houston. It was not in small towns where people have never been accustomed to telephones. Their experience covers two different things. One, the establishing of a brand new exchange, telephone exchange, and second, the purchasing of existing telephone exchanges and developing those exchanges and that is their best judgment. Other men have given me the same information. Their experience was not in towns where telephone service had not been employed before. I just stated that their experience embraced two different things, one, the establishment of new exchanges, and two, the acquiring of exchanges and rebuilding them and then developing them. They

bought the plant and rehabilitated it and developed it, so it  
2707 covered both things, and they were very earnest in their statement that it requires in excess of two years, would be nearer three or four years, before they ever got their exchange on a paying basis. We have telephone exchanges all over the country, to the farms and small towns. In some places the farmers through the better developed sections of the country stick up their own poles and string lines and get telephone service for about \$12.00 a year, and in some places for \$6.00 a year. The only difference I can see there and in the cities where the people have to communicate with each other so much is in the size and amount of business. The need for the service is still there. I cannot agree to the fact that the people haven't learned the value of it as they have in the city, I think they have learned the value of telephone service.

"Q. Mr. Hoag, in your set up of the cost of establishing business, is there any of these sub-heads you have here that will in any way apply to losses sustained by obsolescence or inadequacy? That would hardly apply in a new plant, would it, under the theory which you have reproduced this plant, you wouldn't have any losses from obsolescence or inadequacy to speak off?"

"A. We would meet with the usual losses which are cared for by our reserve for replacements."

2708 Obsolescence and inadequacy does apply with as much force to telephone companies as it does to other utilities.

Our best judgment is that only 35 per cent of the plant of a telephone plant which is displaced, which is removed, is removed on account of its being worn out, and that 65 per cent is removed on account of inadequacy, obsolescence and public requirements, and that is a very conservative estimate. I mean to say that in building up this plant I would probably have to remove 65 per cent of the material and equipment at different times on account of its being worn out and 65 per cent of it removed on account of inadequacy, obsolescence and public requirements. I mean 65 per cent of what has been removed has been removed on account of obsolescence and inadequacy. When we once get our conduit lines placed we still have trouble about having to take them up, or change them. For instance: In connection with the construction of your Main street viaduct here over Buffalo Bayou, as I recall the figures, we were put to an expense of some thirty thousand dollars and had a charge against our reserve for replacement of something less than twenty-thousand dollars—the details will appear later—due to the fact that we have to abandon certain conduit runs and underground cable runs. That is an example of public requirements. I would not say that our conduits that we have here now are not a permanent proposition, I wouldn't say that for the conduit system as a whole,

but there are many parts of it in the city that will have to be changed. We figure an annual rate of reserve on underground conduit lines of two per cent. That contemplates a fifty year life. We can figure out in advance where our main cables have to run and where our main lines have to run as a community grows, but necessarily that engineering cannot always be accurate, there are bound to be some mistakes in a growing community like Houston. A small example of what happened in connection with conduit lines: We built a lines out Fannin Street a good many years ago to McGowen Avenue, and at that time south of McGowen there was only a very limited amount of business, that portion of the city had not developed at that time. Since that time you know what the development has been. At the corner of Fannin and McGowen we built a small man-hole, and from that man-hole took out our small cables, ran them up the pole and extended them on out by means of aerial cable and open wires. We later had to come along and extend that conduit from McGowen and Fannin way out into the Montrose Addition, and into other portions of that third ward, and had to place heavy runs of underground cables out there. That made necessary the reconstruction of that man-hole at the corner of McGowen and Fannin. Our construction out to that point was adequate and sufficient to take care of any future development, the main line was, yes, sir, but this particular man-hole had to be all torn out and thrown away, and a large junction man-hole constructed to care for the heavy run of cable which had to be placed on account of this growth. That is an example of inadequacy in connection with conduit construction. The main line conduit is in Fannin Street and is being used and will be used for years, and we hope it will serve. We hope we will not have to move it.

We figured it would last fifty years in this rate of reserve we have established here, two per cent. We may have to add to it, but that would simply be additional conduit, but we don't figure it will wear out. So far as it goes it is adequate, it is so adequate that it may be built on to from time to time. I don't mean by "conduits" the trenches, but I mean the conduit itself, the man-holes, the vitrified clay ducts, and that portion of it, the things that permit the cables to run through. On the underground cables we figure the rate of reserve is three per cent, that is a thirty-three year life. They are not as permanent as the underground conduit on account of their being subject to damage. They are also subject to inadequacy. Underground cables are replaced on account of inadequacy very frequently. We have for example: The business section of Houston is constantly developing and enlarging. I have seen it enlarge from a comparatively few blocks to a very large area which now exists, and as the town continues to grow, that is going to continue to enlarge. From the main line cable on Main Street—when the business section did not extend west of Travis Street—we placed a 100-pair cable to serve that section west from Main Street to Travis Street. Then as the business district grew, as it enlarged, we had to replace that 100-pair cable with a 200 or maybe a 400-pair cable, and later we had to replace it with a 600 or 900-pair. That is a good example of inadequacy in the case of underground cables. We have put in cables now that are as large as susceptible of being put in—where the amount of business justifies it. We of course cannot place a 900-pair cable, which is quite expensive, to serve forty or fifty subscribers, without we are very sure we are going to get such a growth in such a length of time as to justify the expenditure for the 900-pair cable. It never happens that in the growth of the community as a whole that we are required to change our conduit system as a whole, abandon one line because it didn't serve and construct a conduit in another portion that was built up, but we do have to abandon parts of the conduit lines. We do have to do that, and that means a considerable charge against our reserve for replacements. The example that I mentioned a while ago in connection with this viaduct work. I think of another one in connection with building construction when the conduit is laid close to the curb. When a large office building is constructed they invariably use the space under the sidewalk as a part of their basement space. Those things are occurring every day, every week, every month, and will of course, continue to occur as the town grows, making the conduits as located, subject to change.

2712 In other words, our foresight wasn't as good as it would have been if we had known just how the town would develop. If we knew positively what was going to happen as to the growth of the town, these conduit lines could be built much more permanently and there would be fewer changes. Not knowing that, the conduit lines are to some extent, at least, misplaced. And in connection with changes in street grades, we have to lower man-holes.

The question of obsolescence of switch-boards is also dealt with in some detail here, and can be better shown if you care to wait until then. Inadequacy and obsolescence in switch-boards are two very different things. The switch-boards become obsolete when it is replaced, when a new invention, research work, develops a switch-board *when* renders more efficient service. That has occurred here in Houston of fairly late years. I might tell you what is happening in Dallas today. In the Dallas main exchange today we are displacing our manual equipment, manual common battery equipment, which is the same kind you have here in Houston, with automatic. That is in the Main Exchange and by the last part of the year we will also be doing the same thing in the Haskell Exchange district. In those two districts combined are some twenty-two or twenty-four thousand telephones in the city of Dallas. It is possible that we will have to replace our manual common battery equipment in this

Houston Preston Exchange. As a matter of fact we have 2713 it scheduled simply to protect ourselves in case we have to have the automatic equipment. There is such a demand for that that you have to schedule your needs considerably in advance. We do not contemplate changing it at this time, but we may have to replace it in three, five or seven years, or even less time. That necessitates the displacing of this entire switch-board, and it means a charge against the reserve fund for replacements in excess of five hundred thousand dollars, and means expenditure for new plant in excess of a million and a quarter dollars to do that one thing. That would tend to cut down the operating expense, but the initial cost of the automatic is considerably greater than the manual common battery system, and also the cost of maintenance is greater in that it is much more complicated *that* the common battery system. Then there would, of course, be a salvage value on this equipment which was removed. That salvage value might equal 20 or 25 per cent of the initial cost of that equipment, so that the loss would be 75 per cent approximately of the initial cost of that equipment. That would necessitate some reconstruction or remodeling of the building, because the building as now constructed is sufficient to care for the manual common battery. There is not, however, in the building sufficient space to care for the automatic equipment in addition to the equipment which is already there. Neither is the building arranged, as it would have to be arranged to care for the 2714 automatic in that it was built some seven or eight years ago before the automatic had been given serious consideration.

The automatic service is being given serious consideration. We are installing it in Dallas, and it is being in many other places. We would have to remodel this building which would mean a charge against the reserve for replacements, and we would have to add to it to install the automatic. It would not be just a minor change, but it would mean tearing out practically all of the west side of that building for several floors and adding to it, and remodeling the interior of the building, providing space for frames and things of that sort. That would effect the distribution system to this extent: That to connect the distribution system to the automatic new frames



would have to be installed in connection with the automatic equipment. New underground conduit construction would have to be placed, and a very expensive job would have to be done of underground cable work connecting these cables to the existing underground cables at the corner and carrying them on up to these frames which would be installed in connection with the automatic equipment. That in itself would probably cost \$50,000.00. It would not affect our aerial distribution system at all.

There are things which do affect the aerial distribution system. There are more things that affect the aerial portion of the distribution system than any other portion of the plant, with the possible exception of substation apparatus. Many things cause that. Inadequacy, that is, the growth of the city, public requirements. Inadequacy is the biggest thing. Exposure to the elements. Police regulations do not have anything to do with it, but the individual regulations to which we are subject by the residents have a great deal to do with that. Treating the fire limit as a police regulation: In 1907, I think it was when Mayor Rice was here in Houston, an ordinance was passed, possibly it was passed in connection with the franchise, requiring us to remove a very considerable amount of aerial construction in the down-town portion. In fact, it required us to remove all aerial construction within these established fire limits. You are wrong, that is not a thing of the past. As the town grows necessarily the fire limits extend and necessarily we will be called upon to remove our aerial construction in like manner as people who construct buildings in the fire limits will be called upon to set up fire proof buildings.

This matter I spoke of, having to change the building to install automatic equipment, would also apply to the lesser exchanges, like the Hadley and Taylor exchanges, but it wouldn't apply immediately. It would probably develop in like manner as we expect to develop the automatic service in Dallas. It would affect the switch-boards on those exchanges, in that extensive automatic equipment would have to be installed, and those switch-boards would have to be remodeled to take care of the inter-connecting between the manual common battery switch-board and the automatic switch-board.

Redirect examination.

Questions by Mr. Duls:

In making my estimate of what it would cost to establish the business I have attempted to arrive at the value of the plant, other than the physical plant. That is ordinarily called the Going Concern Value. I have made an estimate of what it would cost to establish the business in order to find that going concern value in like manner as I made an estimate of the cost of reproduction of the physical plant, physical property, in an effort to determine the value of that portion of the plant. The cost of establishing business includes a great many other items besides the cost of getting subscribers and

that is shown on this exhibit on the cost of establishing business. So that, when counsel questions me about the cost of establishing business in terms of the cost of getting subscribers, he left out of consideration a great many other items that enter into the cost of establishing the business, he leaves out the major portion of it.

Mr. Duls: Turn to page 11 and name some of the other items that enter into the cost of establishing business, or going concern value.

Mr. Howard: He testified to all that the other day.

Mr. Duls: He didn't mention them. He testified to some of them. I just want you to learn the other items besides the cost of getting the subscribers that enter into this thing.

Item 2 is building up organization, Item 3, developing records, routines and so forth. Item 4 is the first directory cost, Item 6 is plant maintenance. Item 7 is reserve for replacements. And on page 22 are the deficits during the two year development period, which constitutes the major portion of the cost. Those are some of the items other than the cost of getting subscribers, that enter into his thing.

In estimating what it would cost to get subscribers I have made allowance for the fact that some subscribers would come in voluntarily, and have assumed that most of the business people would come to our office and apply for service, and a considerable number of people who desire service in their residences would do likewise. And I made an allowance for that in arriving at my cost. It is a fact that today, with people clamoring for telephone service that we are doing advertising in Houston. If I were going to reproduce a new plant here I would have to do advertising. The cost I arrived at of getting subscribers, the estimated cost, is based on actual cost records. That is, the records of the company show what it cost on an average to get subscribers and that is the cost I used. The records of the commercial department of the company show that cost and that is what has been used. Subscribers have been coming in voluntarily all the time, some subscribers, and still it costs money to get subscribers.

In arriving at the deficits during the development period I did not use the existing rates. I instead used rates which at the end of the development period, that is, at the time when we had the full or normal number of subscribers, that would produce a revenue sufficient to care for all of the expenses and a return of eight per cent on the investment. If I had used the present rates for service, the deficits would have been very considerably larger.

Page 4 of my appraisal shows the taxes during the construction period. When this matter was taken up a few days ago, the question came up as to whether or not I had correctly figured that item out of taxes during the construction period. I have gone over that matter again, have checked that and find that my figures were correct, and that I did not make an error as at first thought I had. Therefore, the set up as shown on page 4 is correct. The usual

method of figuring taxes during construction is to figure the taxes on a mean time basis. That is, if the construction period is three years, then, after determining the amount of taxes to be paid, the total amount of taxes to be paid per year, that amount would be applied for one and one-half years on the assumption that the money expended would be expended for that average meantime of one and one-half years. I didn't consider that quite the fair way to work up the taxes during the construction period, and have therefore built it up on the basis of the expenditures as made during the quarterly periods for the three years. That resulted in the total taxes during the construction period of \$101,720. If those taxes had been figured on a mean time basis it would have resulted in the taxes totaling \$109,856, or \$8,136 more than the amount as used. The time at which the taxes are paid does not in any way affect the amount of money which should be capitalized in that these taxes are paid and form a part of the expenses of the construction of the plant. That is a part of the expenses which are incurred during the construction period. Even though the actual amount of taxes were paid one year or two years after the plant began operation, nevertheless there is an expense which was incurred during the construction period and is therefore a proper capital charge.

#### Cross-examination.

#### Questions by Mr. Howard:

2720 "Q. Mr. Hoag, let me see now: Did you figure that you paid any taxes on this 1, 2, 3 and 4 during that year?"

"A. The point I just made was that it doesn't make any difference when these taxes were paid, whether they are paid one year after this plant is constructed, or six months afterwards."

"Q. My question is whether you have to pay any taxes at all for the first year, except on the real estate?"

"A. If I may explain that in detail I will say this: October 1st, 1919, was the date of the inventory and the appraisal, and therefore that was taken as the date of the beginning of this construction period. In the first quarter, which would be the period from October 1st to December 31st, 1919, as this shows, we would have purchased the real estate; therefore, we would have to pay the \$401 taxes, as shown on January 1st, 1920."

"Q. Did you advise yourself concerning the Texas law in regard to taxes?"

Mr. Frank: He doesn't mean pay it; he means become liable to pay it.

"Q. If you purchase real estate in January, don't you know as a matter of fact you wouldn't have to pay taxes on it at all for the year 1919?"

2721 "A. We would have purchased this real estate between October 1st and December 31st. That is, about the middle of the period, previous to January 1st."

"Q. And don't you know that you wouldn't have to pay any taxes at all for 1919?"

"A. The point I made a while ago is, it don't make any difference when these taxes are paid."

"Q. It makes a difference whether you have to pay them at all?"

"A. We do have to pay them."

"Q. I am asking you if you familiarized yourself with the Texas laws upon taxation?"

"A. It has been my experience in purchasing land for this company, and for myself, that when you purchase land as of October, or some other period in the year, that you assume the taxes for one-third of the year, or a half of the year, as the case may be."

"Q. I am asking you if you familiarized yourself with the Texas law upon the subject of taxation, and who is liable for taxes for property."

Mr. D. A. Frank: It isn't a question of liability it is a question of practice, and what he states is the exact practice.

Mr. Howard: He hasn't purchased it in 1919; he is theorizing about it.

Mr. D. A. Frank: What he has stated, that if you purchase 2722 land on the 1st of October, you have to assume a proportionate part of the taxes for the year. It is a question of agreement.

Mr. Howard: He is purchasing property and is supposed to get a good title, and isn't assuming anything.

Mr. D. A. Frank: I passed personally on every contract from 1905 to 1914 on property in this town, and in one of those particular cases—right here at the Preston Exchange they assumed the taxes for the proportionate part of the year.

Mr. Howard: We are talking about the plant you are reproducing.

Mr. D. A. Frank: It is a matter of practice.

"Q. I am asking you if you familiarized yourself with the law and ascertained that the taxes for that year were assessed against the grantor, and not against the grantee? You didn't take that into consideration at all, as I understand you."

"A. I have not thoroughly familiarized myself with the law."

"Q. You have taken into consideration the fact that improvements placed upon the property after the first of January, are not assessed for taxation at all during that year?"

"A. I know positively that you pay taxes on property which you own."

2723 Mr. Duls: On what date?

"A. I pay mine in January each year."

"Q. Did you ever build a house on a vacant lot?"

"A. Yes sir."

"Q. And did you discover when you came to pay your taxes at the end of that year, after they became due for that particular year, that you paid only upon the real estate, notwithstanding that you had put improvements on it after the first of January?"

"A. I don't recall just what I did."

"Q. If that is the law in this State, that you pay taxes only upon such improvements as are on the property on the first day of January of that year, your set-up would be an error to that extent, would it not? If you didn't have to pay the taxes at all?"

"A. I don't understand it would be an error, no sir."

"Q. Let's assume for illustration that you started to put up this plant in January, 1920, you are starting right now and putting up the first four quarters, during this year, beginning after the first of January of this year, don't you understand that you wouldn't have to pay taxes at all upon those improvements for the year 1920."

"A. No sir, I don't understand that."

"Q. You don't understand that?"

"A. No sir."

"Q. If that is a fact, it would change your set-up of the  
2724 taxes would it not?"

"A. No sir, not as I understand it, in that we have to pay taxes on all of this property."

"Q. I am assuming you don't pay it for the improvements put on there during 1920. If that is the law, and you don't pay those taxes, that would make a difference in your set-up, because your set-up is based on the theory that you do pay taxes on those improvements for the year 1920."

"A. I have assumed that we do pay taxes on the expenditures as made in 1920, on the amount of property which *has* placed during that period."

"Q. If, as a matter of fact, you don't, and the law doesn't require you to do it, your set-up would be in error as to the taxes, wouldn't it, your estimate as to the taxes?"

"A. I don't understand it that way."

"Q. It is a very simple thing. Take my assumption, whether right or wrong, suppose you put on those improvements, the \$235,000, \$170,000, \$376,000 and \$542,000, that you put that on the land after the first of January?"

"A. Yes sir."

"Q. You have made your set-up on the assumption that you have to pay those taxes?"

"A. Some time."

"Q. Yes sir, sometime on that property."

"A. Yes sir."

"Q. If, as a matter of fact, you don't have to pay taxes on it at all for the year 1920, the year on which they are put on  
2725 there, then your set-up would be erroneous to that extent.

I am not saying as you computed it that it is erroneous, but I am saying if you make that assumption, and you would not have to pay taxes on that equipment at all, then your statement would be bound to be erroneous."

"A. I would have to study that carefully before I could answer it."

"Q. It is very clear."

"A. No sir, it isn't."

"Q. If you don't have to pay them, if you have included something that you think would have to be paid, and you find out you

don't have to pay it, your estimate would be erroneous to that extent?"

"A. If these taxes don't have to be paid, this would be wrong."

Mr. Howard: That is all I want to ask you.

Redirect examination.

Questions by Mr. D. A. Frank:

In the course of three years in constructing a plant, began in 1920, we would certainly begin to pay taxes in 1921, and property erected during 1921 would bear taxes as of the date of January 1st 1922. So, that the only difference my set up, would be, instead of being divided up into quarters, it would be annual instead 2726 of quarterly, and what I have done here is to allocate it to quarters in an effort to build this up on a fairer basis than by taking the mean time, and is actually less than it would be if we were constructing the plant new. And in addition to that the whole plant that we have assumed here is the taxes paid on the present assessment, which is considerably less than the real value of the property. In other words I have merely applied the figure that is based on the present assessment and payment of taxes, instead of what it might be if I were constructing a brand new plant.

Cross-examination.

Questions by Mr. Howard:

I assume that I started to build this plant in October 1919, and there are no improvements on the land in the first quarter. The first expenditures for building is made in the third quarter which would be between March 1st and June 30th 1920. That \$235,519.00 represent the amount of money which was spent in the purchase of the land, and the next figure \$117,559.00 represents the average amount of money. In other words, to be strictly fair, we have not assumed this \$235,000 would be spent as of October 1st, but we have instead assumed that it would be spent about the middle of the period. We spent that money for the land, That is, we bought the land with the \$235,519.00. I have figured the taxes on the land from the very day we acquired it and it is \$401.00. 2727 The next item \$170,377 is the average amount of physical plant in place.

On page 2 is the set-up that shows how I have added my improvements during this time, and also on page 3. The land is being shown as purchased in the first quarter, that is the first item. Then the building—although the building construction would start during the second quarter and probably even during the first quarter, still the first payment to the contractor would be made in the first quarter of \$104,138.



## Redirect examination.

Questions by Mr. J. D. Frank:

Page 1 of my appraisal shows the total reproduction cost of the physical property \$5,683,610.

The next thing appearing below that is expressed in this language: "Present or per cent condition of Physical Property, 92.91 per cent." I tried to determine the present condition of the physical property, because the estimated reproduction cost is based on reproducing the plant new, and to determine the present value it was necessary to determine the present condition of the property.

That is to determine the accrued depreciation and to deduct that accrued depreciation from the total reproduction cost of the

2728 property now. I found the property to be in 92.91 per cent condition. I determined the present condition of the prop-

erty by a careful physical inspection of it. I made a general inspection of all of the distributing system. In the case of pole lines, I saw practically all of the poles in the exchange. Where the pole lines were obviously in the first class condition I made a detailed inspection of every twentieth or twenty-fifth or thirtieth pole; where the poles did not appear to be in such good condition I made a careful inspection of a large number by digging around the poles at the butts, determining the amount of decay, and whether or not the poles had a hollow heart. In the case of aerial cables, and aerial cable accessories, such as suspension strands, bolts and so forth, I made a careful inspection of that portion. I inspected a considerable amount of sub-station equipment, and installations in the business district. I only inspected a limited amount, in fact, only a few of the telephones in the residence sections in that it was difficult to get into houses for that purpose. I covered the buildings by starting at the roof and going through to the basement, paying particular attention to the buildings as a whole, and also to the parts of the buildings that wear, like windows, doors, floors, elevators, heating plants, lavatories and so forth. I have been over a good many hundred telephone exchanges, large and small, and this property is in as good condition as any exchange I have ever been over,

2729 and is better than 90 per cent of the telephone exchanges.

With reference to some of the factors which tend to keep telephone property in high-class condition, the fundamental thing is the initial construction of such a property. The best materials procurable for telephone properties has been used, good engineering has been done, and first class workmanship has been used in the construction of this property. That means that a plant so constructed will remain in a perfect condition generally than a poorly constructed plant. The maintenance of the plant, that is, the day to day repairs and up-keep has a considerable bearing on the condition of a plant. This property is highly maintained. A well trained and efficient organization is constantly employed in keeping up this property and the parts of the plant have not been permitted to wear

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and deteriorate, but instead have been repaired from day to day and have been kept in a first class working order. The replacements of the plant from time to time have a considerable effect upon its condition.

I haven't the replacements and enlargements separated, but the replacements and enlargements combined, that is, the net addition to the plant for the last nine years total over \$2,551,000. That is for the last nine years. For the last five years the net additions have been one million two hundred seventy-seven thousand 2730 dollars. That is the cost of these net additions, enlargements and replacements.

The gross additions for the last nine years total \$4,252,736.00 for the nine year period. That much new construction has been put into this plant during the last nine years. Since 1914 it has been \$2,325,372.00. A considerable amount of replacements are replacements before the plant has lived its useful life, and that applies particularly to the aerial portion of the plant. Take poles, for instance only a very small percentage of the total are permitted to live their useful life.

All these matters mentioned by me tend to keep the per cent condition of the property high. There is one other matter which has not been mentioned, and that is the growth. In a growing plant, like Houston, the growth, of course requires large quantities of 100 per cent new material to be placed. And as long as the growth continues rapid, you will find as much new construction in a plant of this kind as you will old construction. This is shown more in detail in my appraisal on page 9. Also, certain details in connection with it are shown on page 8.

On page 8 is shown the reproduction cost of each class of plant, in the first column it shows the cost not including overhead expenses.

In the second column is the reproduction cost including overhead expenses of each class of plant, and the third column is the per cent or total reproduction cost in each class of plant. For example the land represents 4.58 per cent of the total of the reproduction cost. The Central office equipment represents 24.64 per cent of the total reproduction cost.

On page 9 the first column shows the per cent of total reproduction cost in the class of plant as built up on page 8. The second column shows percent condition of each class of plant, and the third column shows weighted present condition. The first item of land which represents 4.58 per cent of the total reproduction cost of the property, is in 100 per cent condition, in that land does not deteriorate, and the weighted present condition of the land is 4.58 per cent. The land does not depreciate, but I have included it in this consideration of the present condition of the physical property because it is a part of the physical property, and what I am trying to do is to determine the present condition of the physical property as a whole.

Mr. Howard: What do you mean by "Weighted Present Condition?"

Mr. Hoag: That means this: Take for example the pole plant,

which represent 7.86 per cent of the total reproduction cost of the property. The pole plant has depreciated 13 per cent in that it was found in 87 per cent condition. You can work that out by deducting from your 7.86 per cent 1021, which will give you the Weighted Present condition.

Mr. D. A. Frank: You will get the same result by taking 87 per cent of 7.86.

Mr. Hoag: Yes sir. In other words, multiplying the first column by the second column and you get the third column.

The stable and garage equipment, the last item on the sheet, was found in 75 per cent condition, it having depreciated 25 per cent.

There is an item of right of way there. That depreciates. That item depreciates 100 per cent at the time, at the moment the right of way is abandoned. When a right of way is obtained, it is charged on the books under the Right of Way account at whatever it costs and at any time the right of way is abandoned we have to charge it off the books, and the only way it could be charged off would be to clear it through reserve for replacements. For example: We have a right of way across the G. H. & S. A. Railway yards on Montgomery, which cost several hundred dollars. If we should re-route our construction and carry it along some other street, then at the time that right of way was abandoned we would have to charge to reserve for replacements whatever that right of way cost us originally. As long as we have the right of way it is in 100 per cent condition, but the moment we lose the right of way it deteriorates down to zero, goes from 100 per cent down to zero and becomes a loss altogether.

#### Cross-examination.

#### Questions by Mr. Howard:

We still have the right of way, and it is in 100 per cent condition, and it is so shown here. A physical inspection is the only possible way of determining the condition of the plant. It is not possible by inspection, to observe all the different parts of the plant, such as underground conduits between man-holes, that is, sub-surface construction and only the end of the conduit can be seen. You can make a fairly thorough examination of installed machinery, but there are parts you cannot see.

The average life of a plant, telephone plant, as a whole, is around fifteen years. That is the average life of this particular plant as a whole understand. That does not apply to any particular part of it. Some parts might have a life of two years and some twenty years. I could not answer the actual life of the plant as a whole, except as I have done, that we figure an average life is about fifteen years for such a plant as a whole. I think my answer is about right, that the life of this particular plant as a whole is about fifteen years. I don't know that there is any money set aside for amortizing the plant. For reserve for replacements we have estimated 6.334, that is 6.33 per cent. The reserve for replacements—that fund is charged with such replacements as are made,

either for inadequacy, obsolescence, fires, storms, or other casualties. We keep our books according to the Interstate Commerce Commission requirements, and the Interstate Commerce Commission specifically provides for reserve for replacements in their accounting set up.

"Q. They may provide for reserve for replacements which means practically that fund is for the purpose of amortizing the plant and securing the investor the investment at the end of the period?"

"A. That fund is to protect the property"

"Q. To protect the property and to keep it at 100 per cent, so that at the end of the time the investor will have whatever is in the depreciation reserve added to the depreciated condition of the plant will mak it 100 per cent. That is the theory? "

"A. No sir."

"Q. What is it?"

"A. The purpose of that fund is to care for replacements,  
2735 due to these many causes I have mentioned."

"Q. Wouldn't that have that effect? The purpose of it is this depreciation reserve is set aside on the theory that the plant as a whole, aside from mere maintenance and replacements to keep it in operation, that it deteriorates. That is the theory upon which the depreciation fund is set aside upon?"

"A. Yes, sir, but that fund is being spent from day to day, and week to week and month to month."

That is the reason it is set aside, to protect the property, to care for the replacements. That is replacements over and above the replacements under the Interstate Commerce Commission rules that we are charging to operating expense, those constituting minor repairs and up-keep from day to day. Certain character of replacements and renewals. In addition to that we set aside 6.33, not for the purpose of authorizing the deterioration of the plant, but for the purpose of caring for these replacements which are necessary. I do not think they are the same thing, not to my mind.

Mr. J. D. Frank: You are confusing maintenance and depreciation.

Mr. Howard: No sir, maintenance is paid out of the operating  
2736 expense under the rules of the Interstate Commerce Commission. This in addition to that maintenance and replacements necessary to keep the plant operating and functioning to a reasonable degree there is another provision made for amortizing the investment.

Mr. J. D. Frank: Not amortizing.

Mr. Howard: For replacing it, that is amortizing it.

Mr. Hoag: To protect the property.

Mr. D. A. Frank: If amortized there would come a time when we wouldn't have any capital at all. Anything that is amortized is wiped off.

"Q. You are making provision to return to you your capital at the end of the time, at the end of the plant's life, and for that purpose,

over and above these maintenance expenses you set aside 6.33 per cent?"

"A. Yes sir."

"Q. Based on its average life, a little over 93 per cent?"

"A. On the basis that the plant has a life of from fifteen to sixteen years, I would set aside a sufficient sum during that fifteen or sixteen years to replace the plant. Now, whether it was replaced at the end of the period, or at various times through the period——

2737 "Q. (Interrupting.) What do you mean by replacing it—such sum as added to its then per cent condition would bring it up to 100 per cent?"

"A. A plant is not in 100 per cent condition, that is the physical condition is not."

"Q. That is the theory of it, to bring it up so that the plant itself, as distinguished from the value, the rise and the fall of the value of the material and labor that has gone into it, this fund is for the purpose of creating—this sum you set aside 6.33 per cent is for the purpose of putting the plant back in 100 per cent condition?"

"A. Yes sir."

"Q. And providing for the difference between the plant in the condition it was originally installed, and the condition it is in at the present. It would be added to its junk value, that is what I mean. You say this plant was elegantly constructed in the beginning?"

"A. Well constructed."

A plant that is well constructed remains in better condition for its life than a poorly constructed plant. A poorly constructed plant might last as long. It might be used as long, but would not be in as good condition. This depreciation reserve is a sum determined by a realized depreciation which takes place from year to year. In our case it is determined from experiences in the State of Texas for the Southwestern Telegraph & Telephone Company. I  
2738 don't know how depreciation in a telephone plant compares with depreciation in a street car system, I don't know enough about it to discuss it. I know that different utilities use different percentages, dependent upon what their experience has been as to the realized depreciations in like manner as we depend upon our experience.

Mr. J. D. Frank: We have got a whole lot on that, that we are going to put in.

My idea of the physical condition of this plant is based only upon such physical examination as I have given to it. I devoted about seven or eight days directly to inspecting the plant, but I did not dismantle any of it. I am very familiar with telephone plants, and can determine their conditions quickly and fairly accurately. I determined the physical condition of the plant but with that determination my inspection did not cease. In addition to the actual physical inspection of the plant which I made I also determined the number of troubles per hundred stations per month which we experience. For the year 1918, which is the last year in which we have complete statistics, of course, we experience about six

troubles per hundred stations per month. That is a very good indication of the condition of a telephone plant. The average telephone plant at this time runs eight to ten cases of trouble per month per hundred stations when figured on the same basis as we figure them.

2739 When I determined that my inspection did not cease. I am quite familiar with the Houston plant, in that I engineered a considerable amount of it and inspected a considerable amount of it at the time it was installed, and as the work progressed. That, in the case of underground conduit construction means this: that I know how a considerable amount of this underground conduit was constructed; I know that conduit was laid in an envelope of concrete; that that concrete was properly mixed, and that that furnished a good substantial structure and based on that I know in a general way what the condition of that property is which I could not see. My inspection included all of those things. I did not make a chemical analysis of it.

Redirect examination.

Questions by Mr. J. D. Frank:

The total reproduction cost of the physical property was \$5,683,610. I found the property in 92.91 per cent condition. My appraisal of the physical property with reference to its present condition is \$5,280,642. That representing the total reproduction cost of the physical property, less depreciation accrued depreciation. I do not figure any deterioration of the working capital, and cost of establishing business. It was considered with reference to the physical property itself.

2740 Item 10, the last item on the summary of my appraisal, is "Working capital, Including Supplies." I have included \$238,818 for that, and that includes the cash on hand necessary in the handling of a business of this size, the cash necessary to pay salaries and wages, to meet current bills, make ordinary purchases and similar things, and also includes as stated the value of the supplies. That is the amount of money we would have to keep on hand for the purpose of running this business. The accountants furnished me with that figure. The accountants will testify concerning that more in detail just as to how they got that figure.

Cross-examination.

Questions by Mr. Howard:

As to whether the company collected its revenues in advance, I don't know just what the practice is in Houston at this time. Bills receivable and bills payable enter into working capital, and the accountants can explain that in detail.



## Redirect examination.

## Questions by Mr. J. D. Frank:

I am not an accountant, but have just accepted the figures  
2741 which have been furnished to me by the accountants.

I have found the cost of reproducing this property in its present condition, including cost of establishing business and working capital, including supplies, the total reproduction cost, less accrued depreciation, \$6,512,341. The cost of the Houston Exchange property as shown by the books of the company and as testified to by the accountant, Mr. Scott, shown in his exhibit No. 10, as of September 30th, 1919 was \$4,810,385.40.

The Master: What does that represent?

Mr. J. D. Frank: The cost of the physical property of the plant, as shown by the books of the company, as testified to by Mr. Scott.

I have considered the net and gross additions which have been added to this plant from time to time. The estimated population for Houston for the year 1918, based on the scholastic population on the ratio of 6 to 1, was placed at 160,000. The population must be considerably greater at this time. The growth of Houston has been very rapid—of the city. The future prospects for Houston are of course very bright, as indicated by all available data, such as bank clearings, building permits, assessed valuations, bank deposits,  
2742 and the growth in population. I have made a study of what the future of this telephone plant will be for, say the next ten years. In 1929 we have estimated that Houston will have a population of between 245,000 and 250,000 people, and we have estimated that with that population in 1929, we will have a total of 50,749 telephones connected.

I have made an estimate as to how much money will have to be spent in the way of additions to this plant within the next ten years, and I find that to be two and one-half million dollars.

I have testified to the present population of the city of Houston and have given an estimate of what the population will be within the next ten years. I have made a study of the history of this community with reference to whether or not its growth has been rapid or gradual. Its growth has been quite rapid in the last few years. From 1860 up to 1900, the growth might be considered as a normal gradual growth, but since 1900 the growth has been rapid. The population almost doubled between 1900 and 1910, and has more than doubled since that time. The prospects for the future are that the town should grow to 250,000 or 300,000 population. The geographical location alone is enough to make it a very large city. That is, that the population would go to that within the next ten years. I had a statement of the population by decades from 1860 to the present  
2743 time, which indicates the growth of the city. In 1860 the population was 4,800, in 1870 the population was 9,300; in 1880, 16,500; 1890, 27,500; 1900, 44,600; 1910, 78,800. Since 1910 the figures given are of course estimated in that a census has not been

taken since that date; in 1914 the population was estimated as 129,500; in 1915, 147,100; in 1917, 154,600 and in 1918, 160,000. My estimate of what the population will be within the next ten years are based upon a telephonic study made of Houston. Our commercial engineers are constantly making studies of the various plants or communities throughout the State for the purpose of taking care of necessary additions from time to time, to aid in the financing and in the preparation of engineering plants, etc., to permit of caring for the business. That work is done very carefully.

I have been connected with the construction of this plant down here in Houston in years gone by, and am fairly familiar with this plant, and also with this community with reference to its past history, and its prospects for future growth. Basing my opinion upon my knowledge of the local conditions down here, my knowledge of the plant, and the history of the community, I will say that this plant is capable of earning a fair return, it should earn a fair return. There is a need for such a plant as this in Houston. There will be a considerable increase in the demand for telephone service. From 2744 my knowledge of the plant itself I will say that this plant has been well constructed and it is favorably located and it has been well engineered, and is well engineered.

I am familiar with the testimony that has been submitted in connection with the stocks and bonds that are outstanding. Basing my opinion on all of these things which I have stated that I have considered *at* arriving at the value of this property, such as the original cost, the cost of reproducing the property new, less depreciation, the potential earning capacity of the plant, the past history of the community, and the prospects for future growth of the city, the condition of the plant, its location and so forth, my opinion is that the value of the properties constituting the Houston Telephone plant is \$6,512,341.00. That is of date October 1st, 1919. I take that date because that is the date as of which the appraisal was made. From my experience in the telephone business and from the careful study which I have made it is my opinion that was the fair value of the property on October 1st, 1919, that was the minimum value. That value is increased as of the present date, there would be some slight increase in it. I have not added anything in my valuation of this plant for the item of patents. There are a great many patents which are used in the telephone business, and I have not included those in my appraisal because those patents are owned by the American 2745 Telephone & Telegraph Company, and under the 4½ per cent license contract, which the Southwestern Telephone Company has with the American Telephone & Telegraph Company, the Southwestern Telephone gets the use of those patents.

Certainly the plant cannot be worth less than the reproduction cost less accrued depreciation. The plant has a considerable earning capacity, and as previously stated, it is well constructed, well engineered, favorably located, and is a first class plant. The business is of a kind which is necessary. I have given due consideration to the original cost of this property as shown by the books of the company, but I have taken the cost of reproduction, less accrued de-

preciation, as the value in preference to the original cost of the property as shown by the books for the reason that the books do not and cannot reflect the actual cost aside from value of the property. The book cost means little or nothing in determining the value of this property. The books do not show in any place the cost of establishing business, and that cost as given in the appraisal of reproduction costs of the property were added to the book costs then the book costs would show a total of \$5,833,266. In other words, the figures which I have put in here as the original cost as shown by the books, nothing is included therein for the cost of "Going Value."

If the estimated cost of establishing the business, or the going value were added to the book cost, then there would only be  
2746 a difference of \$700,000.00 between the book cost and the estimated cost—reproduction cost of the property. In addition to that, if the books reflected the appreciation in the real estate owned by the Telephone Company in Houston, then that would add to the book cost, something in excess of \$100,000. which would in turn make the net difference between the book cost and the estimated reproduction cost approximately \$600,000.00. When I said "real estate" I mean the land and buildings located thereon. The company like any other citizen of Houston, it appears to me, is entitled to any appreciation which may occur in its property. As I have testified, if I added the cost of establishing the business, or "going value" to my original cost as shown by the books, the difference between the original cost and the estimated cost of reproduction would be something like \$700,000.00. I was speaking there of the estimated cost of reproduction new, less depreciation. In my opinion I think this property is worth at least \$6,512,341.00 as of the date of October 1st, 1919, and worth not a cent less than that at this date. That is my best judgment.

Cross-examination.

Questions by Mr. Howard:

I got the valuation of this property from Mr. Scott as shown by his exhibit No. 10, and that is \$4,810,385. That would be the book cost of the property. You cannot depreciate the cost, you  
2747 can't take anything away from the cost. You could depreciate the property, but you can't take anything away from the property. A depreciation fund is set aside from year to year and that money is expended from year to year. My estimate of its present condition is that it is in 92 per cent condition. Regardless of the cost of the property it is in a deteriorated condition. But you can't take anything away from the cost. The property does deteriorate and at any time a certain amount of the property is in a deteriorated condition. In getting the book value of the company's property you do not include your depreciation fund. That is spent in replacements. It is spent on the property in replacements entirely, to take care for all kinds of replacements. With reference as to whether or not it is a fact that renewals and extensions are often made, and are made by this company out of that fund, the money,

the money has, the money may be used and probably is used in the making of renewals and enlargements. If I had a plant that cost originally two million dollars and had set aside for several years a fund of six per cent on it, and get one hundred or two hundred thousand dollars in that fund you do not add that to the two million and have two million two hundred thousand. Two hundred thousand added to *to* two million makes two million two hundred thousand, but that fund is being spent from day to *time* and week to week.

2748 "Q. I am not asking you about that. We are assuming now to set aside a reserve there of two hundred thousand, and then you take that two hundred thousand and make an extension to the plant with it, then your plant would cost two million, two hundred thousand dollars, wouldn't it, and you would have invested in the capital plant two million, two hundred thousand dollars, wouldn't you?"

"A. That two hundred thousand dollars could not be used for that purpose."

If it were used that way then you would have two million two hundred thousand dollars in plant.

"Q. Then from that two million two hundred thousand dollars because the two hundred thousand dollars was set aside to take care of the replacements and to keep the plant up to a 100 per cent condition, you would have to deteriorate or depreciate the plant in the sum of its actual deterioration, wouldn't you, in order to get the right value on the cost basis?"

"A. No sir, that two million, two hundred thousand dollars is still invested in that plant regardless of where that money came from or regardless of the physical condition of the property."

It is invested there, however, out of the pocket of the original investor or owner of this property. He puts in originally the two million dollars in plant, then he goes on operating the plant, and doesn't make any replacements, say, for five or six years,  
2749 except the replacements that the Interstate Commerce Commission requires until his depreciation fund shows two hundred thousand dollars; I can get that idea.

"Q. (Interrupting.) Well, you have got that idea, you have got a plant now that is partly depreciated and you have got in your fund two hundred thousand dollars, haven't you, that was included to take care of that depreciation, you have got that, haven't you?"

"A. Yes sir."

"Q. Now, you take that two hundred thousand dollars then and make an addition to your plant, then you have a cost there of two million two hundred thousand, haven't you?"

"A. Yes sir."

"Q. Now, will you say that that represents the true value of the property tested by the cost method?"

Mr. D. A. Frank: Certainly not.

"A. If I may be permitted to explain, Mr. Howard, I think I can make that clear to you."

"Q. That is clear to me, I am trying to make it clear to you. That is the difference between us."

Mr. D. A. Frank: Let him answer the question Mr. Howard.

2750 "Q. I wanted to test your theory. You are qualifying here as an expert valuation engineer in the way of setting up the value of these properties, and you showed us how you could reproduce the plant new and you told us how you could do it by the cost method and I am asking you if there are any additions made out of the depreciation fund. Now, by "additions", I don't mean replacements, I mean something that has gone to extend the plant and you have this two hundred thousand dollars and you make additions of it, then the cost of the plant aside from replacements is two million, two hundred thousand dollars, isn't it?"

"A. Yes sir."

"Q. Now, do you tell me as a valuation engineer that that is the true test of the value of the property?"

Mr. D. A. Frank: Certainly not.

"Q. And that you test it on the cost method?"

"A. No sir, if you will permit me to explain, I am quite sure I can never answer your question, I cannot answer your questions any other way, I don't think."

The reserve for replacements is set aside from year to year; that reserve may be accumulated. This company has accomplished a reserve of some of some 20 per cent of the value of the property. Now, that money is used from time to time, from day to day as depreciation on the property is realized; in other words, as a pole wears out it is replaced out of that reserve fund for replacement.

2751 "Q. Now, where a pole wears out, don't the Interstate Commerce rules under which you keep your books permit you to put that pole back under operating expense?"

"A. That is a major replacement."

One pole is a major item of plant, minor items of plant that are handled as maintenance and repairs are such things as the cord, as the receiver cord, on the telephone, the cord on the switchboard; those are minor items and a pole is considered a major item.

Mr. D. A. Frank: Let him finish.

Mr. Howard: Well, he has given me two or three illustrations.

Mr. D. A. Frank: He has not finished about the pole yet.

Mr. Howard: But he has digressed now to give me some knowledge about what replacements are. This depreciation fund, that is the thing we are discussing. He has gotten up to the point where he is going to enlighten me——

Mr. D. A. Frank: You have not permitted him to answer the question about this pole being a major item.

Mr. Howard: He told me it was a major item so I accepted his statement of it and ask him now to proceed with the depreciation fund and tell us what becomes of that. The reserve for replacements is used, as I just stated in caring for replacements, for 2752 any costs, that is, it is used to protect the property. Now, that money accumulates and instead of having it lying idle, the money is reinvested in the property.

"Q. Yes?"

"A. That is a decided advantage."

"Q. I am not talking about the advantage of it, you do that, don't you. I am not speaking about the advantage of it?"

"A. If you permit me to explain this, sir, I think I can make this clear."

"Q. That is a decided advantage to the public, I am not talking about that. I am assuming that they do that, and they have got a perfect right to do it, I think we have agreed upon that, that they do it."

"A. In fact they save the interest charge on the money——"

"Q. (Interrupting.) I understand that, I admitted that before you started. I didn't have to be told the advantages of borrowing from your depreciation fund, because I knew it. It is good business and economics and entirely proper, but now what I am asking you about is when you do borrow from it and make extensions out of it and that is added to capital, whether then in order to get the real value of the plant tested by this method, you depreciate it?"

"A. You can take nothing away from the cost, in that that is cost, that is what it cost. It appears as a physical fact and has nothing to do with the money. If the plant cost two million two hundred 2753 thousand dollars, that is what it cost, and you can take nothing away from it."

"Q. Well, now, then, according to your theory, you want to take this depreciation reserve that the community allows you to set aside for the purpose of replacing your plant and divert it as I have admitted you have the right to do to the purpose of extensions and then when you have made those extensions out of your depreciation or replacement fund and added it to capital, instead of paying it back here to replace the first investment and keep it up to 100 per cent then you say that the original investment plus the amount that you have added in addition out of the depreciation reserve is the true value of the plant tested by the cost method, without depreciation?"

"A. No sir, I haven't said that."

"Q. Well, you said you couldn't take anything away, you couldn't depreciate it because it is what it cost, and you couldn't depreciate property so far as cost is concerned?"

"A. You can't depreciate cost. You can depreciate property."

"Q. I am not talking about cost, I am talking about property." Theoretically, take this illustration, we start with two million dollars that is invested in the plant. Now, that is the money that he has got in there, isn't it, two million dollars, that's true, isn't it, Mr. Hoag?"

"A. Yes sir."



2754 "Q. Now, this other two hundred thousand, he didn't invest, he has taken that out of the earnings that the public pay, he takes that much of the money, besides the fair return that he has been permitted to earn, that is the theory, paying operating expenses and yielding a fair return, and they are permitted for the purpose of keeping the plant up to its 100 per cent condition, they are permitted to set aside this depreciation fund. Now then, they have done that, but instead of taking that depreciation fund and allowing it to lie idle, they made additions to capital, that is, they extended their plant. Then in order to get the true investment, you have to take the old original part of the plant that stands for the original investment and you add the new plant that you made out of the money that the people have allowed you for depreciation, then you get two million two hundred thousand dollars, but it will be assumed that this original property that stands for the original investment has been depreciated to the extent that the diversion is, to the extent equal to the diversion, isn't that true?"

"A. No sir, there was scarcely any part of your statement true."

As to whether or not I may think that it is true, I beg your pardon, but I am just telling you the way it impresses me. The money that is set aside in the reserve for replacements is only used in the making of extension and additions to the plant, for the reason that it is not economical to leave that money lying idle. The fact remains that you have diverted it, and that the investor 2755 in this plant has not a dollar of new money to the plant by reason of these extensions.

Depreciation is something that is unavoidable and that money has to be spent for depreciation eventually. You have the two million dollars, the original investment—that is what the man that started it has put into this community to serve the public, two million dollars, but everybody realizes that in the service of the public this plant is going to deteriorate as time goes on; that's true. They have to provide against. They say you can also earn out of our payments which we are contributing to you, a fund to be set aside to keep up your plant, your original plant up to 100 per cent condition to protect your property.

"Q. Now, he keeps that fund but instead of replacing his plant, we admit the reasons are proper, he diverts two hundred thousand dollars and makes additions, so that you wouldn't contend that the man who owns this plant has put into it by way of his own investment and out of his own pocket two hundred thousand dollars, would you?"

"A. Yes sir, for this reason."

Up to the point where you say this fund is created, that is correct. Now, from that point on, that money is used temporarily for the purpose of making additions to the property rather than to borrow money and pay six per cent on it. Then there comes a time when the depreciation is realized, even in five years, ten 2756 years, or fifteen years; then that two hundred thousand dollars has to be spent to care for that realized depreciation and

this usage of that money in the interim simply means that the money is not lying idle, but instead it is earning a return and thereby reducing the reserve for replacements which it is necessary to set aside.

I have not had any experience in financing telephone companies. I have had considerable experience in the accounting as relating to all kinds of plant construction and maintenance and that sort of thing, and am, of course, familiar with the general accounting methods. Individually I have had experience in buying and selling telephone exchanges for the Company; I have bought a very considerable number, have appraised and purchased.

In my opinion I say that you cannot value a plant upon the accounting method or cost method; in nearly all the properties which I have purchased the same method of valuation was used as has been used here by me, in that we would inventory the property and determine what its present or per cent condition was by a physical inspection. Then the final determination of value was arrived at after considering the possible earning capacity of the property, the appraised reproduction cost, and all of the other things in a general way, of course, as have been considered here, and that would finally determine the price.

Supposing that suddenly a radical change would take place  
2757 in the currency of the country and prices would begin to tumble until they got down to prices at the pre-war levels, or below, bringing the value of these utilities to a price where they could be reproduced for much less than the actual money that went into them, and at the same time, if Mr. Frank is correct, in his idea about the Courts, they had undergone a change of opinion and said that you were entitled to get all that had been invested in the plant, I would know how to go about arriving at that value. It would be a very difficult method to build it up in any more accurate form than these estimates of reproduction.

Assuming now where our reproduction values would be far below the money that was put into them, and we wanted to preserve our returns from being confiscated, and I was told to go and bring before the Commission or the Court, the amount that we had sunk in these properties, it could be done. As to whether or not in doing that I would catch everything that we had ever encountered in the way of trouble or loss or damage or injury, everything that can be conceived of in the building up of the telephone company, is what I was trying to explain. I understood your question, and I was trying to explain that, to get at that value in such a case as you stated, it would be necessary to estimate many things in like manner as this estimate was made up.

2758 "Q. In fact the books are correctly kept, the company that is handling this money has got a good sufficient corps of bookkeepers all the time?"

"A. It has been repeatedly suggested that the books have not been so kept in years gone by, that you could determine what the property actually cost. That is generally admitted."

"Q. Mr. Hoag, the only objection ever urged to any investment

here by any court, Commission or anybody else, the only objection that has ever been urged to the investment or original cost or accounting method of valuation, that is the only one thing, isn't it?"

"A. You are covering a good deal of ground there. I am not prepared to say that that is the only objection?"

I know that it has been customary to arrive at values in this manner, by making an estimate of the cost — the reproduction cost of the new property, that is, for all the period that rate cases have been heard that has been customary.

"Q. Why there was quite a fight put up in the case of Smyth vs. Ames against the cost method, wasn't there? The utilities were all adopting the cost method and the people conceived the idea that they had probably been too expensive in the handling of the 2759 finances and they wanted to pay only upon what the properties were worth, what they cost to reproduce them?"

Mr. D. A. Frank: That is a matter for the court, it seems to me like.

"A. Well, I know about these things from an engineering and telephone standpoint, but not from a legal standpoint, Mr. Howard."

"Q. Well, that is what I am trying to get at, Mr. Hoag, that your knowledge of telephony is largely a knowledge of the physical construction and you have been employed very much in that line of endeavor as concerns telephone companies and not in the manner of handling their accounts or taking their historical accountingd and figuring the method of valuing them and what they do with their depreciation reserve; that hasn't claimed your attention very much?"

"A. All of those things have come under my attention to a considerable extent."

I have assumed that all valuation and equipment engineers keep pretty well in touch with the decisions of the courts and the Commissions, that is, professional witnesses. I mean by "professional witnesses" men who make a business of testifying in rate cases,

2760 rather than men who make the telephone business their business. I have valuated many properties, have purchased many properties, have looked after the construction and engineering and maintenance and organization of the *dorces* incident to the doing of the work. I have done all of those things and most everything excepting actual financing. I am a professional telephone man.

Mr. D. A. Frank: I think his evidence in this case for the last two weeks speaks for itself.

Mr. Howard: I want to test his knowledge and the things that affect his knowledge.

Mr. D. A. Frank: Well, but you are testing his modesty and not his knowledge.

These professional witnesses develop, I might say this in all modesty, in like manner as I have developed in that they work up

through general engineering work, construction work, and that sort of thing before they can qualify as a witness.

Mr. Howard: I want you to understand, Mr. Hoag, right here, in asking these questions, I did not intend to be impertinent. In fact, I have a great admiration for your ability.

Mr. D. A. Frank: Thank you sir.

Mr. Howard: I say that very frankly and very chee-fully, but I was just making the point that in the matter of handling ac-  
2761 counts, and arriving at rates, he is not a professional valuation engineer, but that he is a very competent and thorough construction engineer, and knows how to estimate a building.

Mr. Hoag: But, my point is Mr. Howard, if I may explain is simply this, that I know more about what really happens, insofar as telephone construction, operation and maintenance is concerned, and less about the decisions of Courts and Commissions than some men whom I would consider professional witnesses. When I use the term "professional witnesses," it may be my poor choice of words. Maybe my choice of words is rather unfortunate for I don't mean that in the sense of discrediting professional witnesses. I mean men who make a business of testifying in rate cases, and who are more familiar with the rate case decisions and the Commission decisions and so forth, Courts and Commissions, than they are with the actual construction, operation, maintenance, and so forth of properties.

Mr. Howard: Well, most of those men that you refer to as professional witnesses are high class men and qualified and keep abreast of all matters pertaining to valuation.

Mr. D. A. Frank: I don't see how there can be any ques-  
2762 tion on that.

Mr. Howard: Well, it is an issue. Mr. Hoag has advanced a good many ideas along the line of valuations that are not strictly what he has done, about which I don't think he is qualified.

Mr. D. A. Frank: Oh, if you expect to disqualify him.

Mr. Howard: I do expect to disqualify him where it gets to the point beyond his actual experience. I am asking him that, and I believe he stated himself that he didn't profess to be a professional valuation engineer.

"Q. You have never made any detailed study of valuation, what the different commissions hold upon, and things of that kind and the manner in which they set up their accounting records and take care of the depreciation reserve, and the manner in which they depreciate the property under their methods?"

"A. All those things are covered fully, first in the I. C. C. hand book, the Interstate Commerce Commission, covering accounting. That is the bible on that part of what you asked about."

"Q. Have you made any great study of traffic expense, and things of that kind?"

"A. I know what traffic expenses are."

2763 "Q. Well, have you made any great study to know when they are economical and when they are not."

"A. Well, I know when traffic expenses are excessive and when they are not in a general way, of course."

"Q. Well, now as I stated a while ago, if you would start out to value a plant that way, by getting its costs and the books are kept then this method includes and will catch or carry in the value of the property everything that has been spent including things that have been spent for equipment that soon become obsolescent, equipment that was inadequate and had to soon be discarded, it will catch everything like storms and damages of that kind won't it, Mr. Hoag, and reproduce it gradually?"

"A. In fifteen or twenty years from now. With our present method of bookkeeping, and the matters which may be——"

"Q. (Interrupting.) I asked you, assuming that the books were correctly kept."

Mr. D. A. Frank: That is a false assumption.

Mr. Howard: I don't know what can be shown. I am confident that you can show your books were pretty accurately kept, if you wanted to.

Mr. D. A. Frank: We haven't said they were not accurate; 2764 we just said they did not have everything in them.

"Q. Well now, assuming that the books have been accurately kept, and all the money that has been paid out, there is a record of it, that method of valuing property, and finding out how much has been invested in it, will absolutely ascertain everything that has been invested in the property originally, everything that has been expended by reason of obsolescence and where you have to change your switch-board because it becomes obsolescent and because you find that some of your equipment is inadequate and have to take it out, the accounting method, always assuming the books were correctly kept, will show with accuracy what has been expended, won't it?"

"A. If the books have been so kept, it would show that."

"Q. And in this cost of establishing business nothing is left to estimates and conjectures?"

"A. If the books were so kept, yes sir."

"Q. If the books were accurately kept. If fact, Mr. Hoag, in the cost of developing business you have made estimates of that. For instance, take the item of attaching your subscribers, practically all of that is paid out of operating expenses?"

"A. You are speaking now of the plant which is in operation?"

2765 "Q. The plant which is operating, speaking of this particular plant.

"A. The plant which is in operation?"

"Q. The plant which is in operation?"

"A. Those expenses are commercial operating expenses."

"Q. And that cost of establishing the business of this plant and attaching your subscribers has been paid out by the community from month to month and from year to year as time went on, out

of the amounts paid by them in the form of collections by this company?"

"A. I suppose they have."

"Q. Then, anything of that kind then you are familiar enough with, matters of valuation to know that it does make some difference where the money comes from, and those costs you would not add to capital account then, would you?"

"A. My set-up is the estimate of the cost of reproducing the business and necessarily those costs, which would be incurred, the expenses which would be incurred, would be added to the capital account."

"Q. Your set-up, I believe, embraced just a short time for construction, did it?"

"A. It embraced the construction period, also the following two year development."

"Q. Well, now, getting off of an imaginary plant and getting down to this plant, you are seeking to raise the rates on the 2766 cost of developing your business, has almost entirely been paid out and has passed out in the way of operating charges, has it?"

"A. I don't know that, I couldn't answer that."

"Q. Well, that is one of the things that professional valuation engineers would understand?"

"A. The accountant would be the only person that could answer that."

"Q. And you don't qualify as to things of that kind?"

"A. I don't undertake to answer that question."

Mr. Howard: Well, those are things that I wanted to show by somebody. I suppose you all, will put on somebody that knows something about those things, and with that understanding, I will discontinue this examination."

#### Redirect examination.

#### Questions by Mr. Duls:

I am not a professional witness and this is the first time that I have appeared in Court to testify. I have been testifying as an engineer, acquainted with telephone property and with construction of telephone property, and the purchase of telephone property, and I have tried to give the court my best judgment of what is the value of this property here in Houston. I have not testified as an accountant. I do not mean to say that this amount that I have testified to \$6,512,341.00 is the exact value of this property here in Houston, but I stated that I considered that the minimum 2767 value. That figure represents the total estimate of the reproduction cost of the property, less accrued depreciation. In my judgment as an engineer and as a man acquainted with the telephone property, I think that figure represents the minimum amount that ought to be placed upon the value of this property in Houston. After taking into consideration all of the different



things that Mr. Frank has asked me about, the location of this plant, the size of the community here, the character of it, and the stocks and bonds, and all of those other things, my estimate of the value would be a different figure than \$6,512,341.00. My estimate of the value of the property would be around seven million dollars. I do not mean to tell the Court that the value of this plant can be determined to the extent of one dollar. In my judgment, as an engineer, and as a man acquainted with the value of telephone properties causes me to say after I have considered all these facts, this cost of reproduction figure is one fact, and the other fact asked me by Mr. Frank, that the value of this property is around seven million dollars. This \$6,512,341 represents the estimate of the reproduction cost of the property, less accrued depreciation. The potential earning of the property, that is the fact that it is a necessary business, that it is well located, and in connection with all of the other things that we have mentioned, means that it is a very desirable telephone property. I can't conceive of a business of this kind, not being permitted to earn a fair return. My experience has been that people generally are fair and are willing to pay a proper charge for anything, and I believe these people are willing to pay a proper charge for telephone service.

As an engineer, and as a man who knows how to value telephone properties, I do believe that the reproduction cost of the property is the minimum amount which ought to be placed upon the value of a telephone property.

If a man were valuing this telephone property and wanted to buy it he would give a little bit more than it would cost to reproduce it in my judgment. I have paid more for properties than it would cost to reproduce them many times in buying them for this company. That has happened right recently, since December, between December and August I purchased some eight or ten properties in Texas. I purchased the Eastland property, the Ranger property, the Gorham, Desdemonia and many others. These properties that I purchased were all independent properties and didn't have anything to do with the Bell Telephone Company.

2769 I do not know as an engineer whether or not there were any deficits when this company first started operating here in Houston so therefore I don't know whether those deficits have ever been paid or not. But in this estimate here in which I say there would be deficits during the development period if I were going to reproduce this property, that is my judgment as to what would take place, but it is my judgment, as to what would actually take place if I were going to reproduce this property.

Cross-examination.

Questions by Mr. Howard:

I think this property is worth around seven million dollars. My estimated cost of reproducing it is six and one-half million. That includes all of the expenditures which would be in connection with

the reproduction of the property as best I could determine. I did not then add on a million dollars for good measure—that is one of the expenses which would be incurred in reproducing this property.

2770 "Q. Mr. Hoag, you stated to me the other day that for the purpose of valuation, as I understood you, that it didn't make any difference whether things were paid out of operating expenses or not, it didn't make any difference where the money came from. Is that your idea of getting at—

Mr. D. A. Frank: I don't see what difference it makes about Mr. Hoag's opinion on that, Your Honor

Mr. Howard: Well, he has just asked him what his opinion was as a valuation engineer and I want to show that as a valuation engineer he states it don't make any difference as to the additions to final value whether certain things have been paid out of operating expenses or out of original investment, I want to ask him if he didn't make that statement.

"Q. You made that statement to me the other day, didn't you, Mr. Hoag, that it didn't make any difference where that money came from?"

"A. I made that statement to you in that you were wrong in the statement that you did make."

Mr. Howard: No, I didn't make any statement, I didn't testify at all. I asked the question. We were talking about some of these construction items and I asked you about some things that were related there, if your item of construction wasn't paid out of operating expenses and you told me that it didn't make a  
2771 particle of difference where the money came from.

Mr. D. A. Frank (interrupting): That is just exactly what the Court holds. We will furnish you authorities on that.

"Q. Mr. Hoag, where were those plants, did you enumerate them all. I heard the ones you enumerated, were those all you purchased?"

"A. No sir, I purchased Breckenridge."

"Q. Where is Breckenridge?"

"A. Not Breckenridge, but Burkburnett, up from Wichita Falls, and purchased the Big Springs Company."

"Q. I don't care about your detailing them all. What was the maximum value, if you don't mind stating, without stating the name of the place?"

"A. One of them was over one hundred thousand dollars. The others varied."

"Q. Some as low as ten?"

"A. Yes, I bought one for \$3,500."

"Q. Mr. Hoag, would you say that there is a man on the face of this broad Globe or Mars, or any of the other planets that would come in here and pay seven million dollars for this telephone company today?"

Now, let me have your honest belief on that, will you?"

2772 "A. Any man who wanted to go into the telephone business in a big way, and had the money to go into the telephone business, and if that man knew the telephone business, he wouldn't hesitate a minute in paying seven million dollars for this Houston Company property."

"Q. It is a good business, isn't it?"

"A. It is a good business."

"Q. And attractive?"

"A. It is a good property in a good location in a good town."

"Q. Now, Mr. Hoag, don't you know, or is this out of your line, also, that in the matter of investments that men never do invest in properties during abnormally high prices, they don't buy real estate when prices are probably due to specific abnormal prices unless it is property they have to buy?"

"A. That isn't true in Texas today, sir; there is some activity."

"Q. Is there more activity in the public utility line today in Texas than there ever has been?"

Mr. D. A. Frank: You asked him about land.

Mr. Howard: Well, he is talking about public utilities.

2773 "A. So far as the public utility is concerned, the reason that the demand is not very great at this time is that the factories have not been able to supply them with the material required.

That is the only thing that is holding back the utility building today, and I say that after talking to other utility people, they are all trying to get materials."

"Q. Don't you know that when you make up an inventory and apply these prices, then when you are determining values that the elasticity of your market or the contraction of your market, or to put it in another way, the more persons that are disposed to buy, the better the value, that is, if the class to which you can sell your commodity is limited, that it tends to narrow and restrict that value of that commodity or business?"

"A. No sir. I don't know that."

"Q. Is there a concern in the United States today that would finance and buy a telephone company of this magnitude at the present price levels?"

"A. A property of this kind does not change hands very often."

"Q. Property of this kind won't change hands during these times of abnormal prices, will it? Now, isn't that your honest belief, to get right down to what you really think, do you think that a property of this kind would be purchased by any investor under these abnormally high prices, with the chance, at least, for prices to radically decline?"

2774 "A. That is just a bit difficult to answer. I answered it previously in this way, saying that a man who wanted to go into the telephone business would buy this property in preference to most any other of like size"

"Q. And the only way that your property has any value aside

from its earning capacity depends upon securing a purchaser, that is able and willing to buy it, don't it?"

"A. No sir."

"Q. Well, what other way now? I said aside from the purpose that it is serving and the use that you make of it?"

"A. Well, aside from that, the property, of course, has a junk value."

"Q. Well, are you willing to accept a junk value?"

"A. No sir."

"Q. Then you didn't intend to advance that as one test of its value then, did you, Mr. Hoag?"

"A. No sir, but the earning value, or present earning value and the potential earning value of the property, the kind of property, the kind of business, the location and all, all those things have a bearing on the value."

Mr. D. A. Frank: The trouble about Counsel is, Your Honor, that he is confusing salability with the question of value, and they are not identical.

Mr. Howard: Salability always bears upon value.

Mr. D. A. Frank: Here's a building that we are in right  
2775 now that the United States Government wouldn't sell for a dollar less than cost. Now, would you want such a building? Take the telephone building right across the street, now would you buy that except for a telephone exchange?

Mr. Howard: And yet you are trying to increase it just as much as the materials have gone into it——

"Q. Mr. Hoag, you take for instance this building that he cited, the value of that when you come to measure its value by the cost of the material that has gone into it and the labor that has been employed and saying that it is worth much more now and that there is that much more inherent value in it, you say that would be correct, the correct way to get at the valuation of this building, although there would be no purchasers for it on the earth?"

"A. That is one of the things that justify the reproduction cost new theory. This building has no salability and one of the ways of arriving at the value of this building is to determine what the reproduction cost new of the building is. That is what we did with our telephone property. If telephone properties the size of Houston's were changing hands from day to day week to week, or even from year to year, then we would have another way of measuring the value of this property."

"Q. What I am trying to get at, have you any way on  
2776 earth of realizing the value of this property in dollars and cents, all the labor and material that has gone into your plant, is there anybody on the face of the earth that would buy it from you at those increased values?"

"A. Well, our property probably has no salability; there is probably nobody wants to buy this telephone property."

## Redirect examination.

## Questions by Mr. William H. Duls:

In my estimates that I have made here of the reproduction cost new of this property, that is, what it would cost to produce it new, in my opinion that estimate is conservative. I have not used abnormally high prices in making the estimate, that is, I have not even used present day prices in making the estimate, that is, prices today January 15th, 1920. I have previously testified that prices have increased since the date of this inventory.

"Q. Now, Mr. Howard asked you if telephone properties were being bought and sold at prices that were prevailing today; you have testified haven't you, that you have bought telephone properties——

Mr. Howard (interrupting): That's been gone over and he has testified to it, what's the use of going over it again?

Mr. Duls: I want to bring out, that is redirect examination, in answer to Mr. Howard's cross-examination, I had already brought out that he had bought telephone properties, and then Mr. Howard brought——

I arrived at the price to be paid for those properties in exactly the same way that I have gone about determining the value of the telephone properties here in Houston. I do that all the time whenever we purchase telephone properties; that is the way we always arrive at the cost of the property. I did not put any oil value on those out there, but we paid some oil prices. We had to buy those properties to render long distance service to the public in that the independent owners were unable to finance them. It was in part to feed our long distance service, and in part to take care of the local business.

Mr. Duls: We have one other item that we want to take up with Mr. Hoag, that is, it does not enter into the determination of the value of the property here, but it is an engineering matter and something that has been referred to already. It is the annual reserve for depreciation and with Your Honor's permission, I would like to take just a few minutes to explain just what the annual reserve for depreciation is, and just what it is intended to take care of, so that Your Honor will have clearly in mind when Mr. Hoag testifies the amount that is necessary to take care of that reserve and so that you will understand his testimony.

2778 Now, the telephone property of the company here in Houston is devoted to a public use and it is being used by the public. In addition, however, that property is being consumed in the public service. Now, it must be clear to Your Honor that the different physical parts that make up the whole of the property here have a very limited life; in other words, their useful life is limited. The poles, for example, rot and the switch-boards become obsolete, the property wears out or for one cause or another becomes inadequate, or it is wrecked by a storm say, from one cause or another, and usually from a combination of causes the property has to be re-

placed, so that unless the owner receives in addition to a fair return for the use of his property, an amount which will enable him to replace it when it comes to the end of its useful life, he will be in the position of one who has collected interest for a few years but who has lost his principal. Now, the amount in the reserve for depreciation is nothing more than the amount which the Telephone Company sets aside each year to enable it to replace its property as and when it comes to the end of its useful life. The Supreme Court of the United States as we attempted to show Your Honor in argument the other day had held that in these rate cases we must take the present value of the property and we have gone out and ascertained that present value as well as our best judgment enables us to do. Now, there have been, however, some suggestions in 2779 some Commission decisions and there are also some engineers who have theorized along the same line and Mr. Howard has advanced the same theory to the effect that there is a measure of direct relation between what you have in your reserve for replacements and the condition of the property at any particular time. Now, the Supreme Court of the United —, as Your Honor will find when you come to read the decisions, has not passed on that matter and if any conclusion is to be drawn from the Supreme Court decisions, it must be a deduction. Now, we regard the matter about in this way. The present condition of the property is a fact. The present condition of a pole out on the street or of a piece of switchboard, is a fact. The present condition of this suit of clothes that I have on is a fact. The present condition of the house in which Your Honor lives is a fact, and it is wholly independent of whether you have set aside any reserve with which to replace that house or whether you have been keeping up insurance on it or of any other condition. Now, Mr. Hoag and the Telephone Company have tried to ascertain just that fact, namely, the present condition of this property here in Houston, and then we have sought to ascertain how that present condition affects its present value, and we have done that entirely independent of any amount that is in the reserve for replacements. There are some decisions which indicate rather definitely that that is the way to consider it. In other words, 2780 when you are going to find put the value of property, what you deduct is not something that you have in the reserve but you deduct the amount which represents the actual loss in the newness of the property, in other words an amount which represents how much it has lessened in value. Now, that is what depreciation means, a lessening value, and that is what the Supreme Court of the United States means when it says and when it holds, as it did in the Denver Union Water Co. case that the cost of reproduction less the depreciation is a fair measure of value. Now, this position, as I say, has been taken in several cases. The Utah Service Commission in the case of Utah Light & Traction Company reported in Public Utility Reports, 1918 B at page 497, uses these words in regard to this matter which we are discussing:

"As regards depreciation, we believe this Commission may well hold along the same lines as the Idaho Supreme Court, which in



Murray v. Public Utilities Commission 27 Idaho, 619; 150 Pacific 47, said: 'So far as the question of depreciation is concerned, we think deductions should be made only for actual tangible depreciation, and not for theoretical depreciation, sometimes called accrued depreciation.' "

Interpreting that, as I remember, Your Honor, it means this: That when you find the value of a public utility property or a public utility plant, you do so by deducting the actual amount of the depreciation or the deterioration that has taken place in the property.

You don't go and deduct what you may have in the reserve  
2781 for replacements, you don't go to the books in any way, because the actual amount of the deterioration or the depreciation in the property is something entirely independent of the books. Now, not so many years ago, we had a fire in Paris, Texas. That fire destroyed practically the entire exchange of this company in that city. The central office burned down and the poles were burned in two, and the wires were down in the streets. The company had in its reserve to meet that fire, reserve for replacements, \$1,200.00. The actual amount of the damage was over \$40,000.00. Now, according to the theories of some of these Commissions and some of the engineers, and according to Mr. Howard's Theory, you would determine the value of the property of the Southwestern Telegraph & Telephone Company in that city on the morning after the fire, by deducting from the reproduction cost new, if that was your method of ascertaining the value, or from the actual cost if that was the method you were going to use, the amount which is in the depreciation reserve or in the reserve for replacements. Now, in other words, that is to say, that in the case of the Paris fire, these engineers and Commissions and Mr. Howard would say that the value of the company's property on that morning after the fire is \$1,200.00 less what it would cost to reproduce that property new. Now, I ask Your Honor, if you would for one minute consider that the sum arrived at in that way represented the value of that property in its burned condition, when everybody knows that  
2782 there is practically no telephone plant there at all, because the whole thing has been practically destroyed. The measure of the present condition of the property has nothing to do with the amount in the depreciation reserve, in other words. If there was no reserve at all, the property would still be depreciated. If you had no reserve, the present per cent, physical condition of your property wouldn't be changed and wouldn't be affected in any way. The reserve is merely a bookkeeping thing and it is entirely independent of the condition of the property. So, that, the first thing we would like to make clear to Your Honor is that this Reserve for Replacements has no relation and has nothing to do with the actual amount of the depreciation or deterioration which has taken place in the physical property. And, second, this amount in the reserve for replacements has nothing to do with the maintenance and repairs. Now, just to make that clear. Suppose that I have an automobile, a Ford say, it is not in very good condition, it is pretty old. I repair that car every month and every two or three months I go

around and pay the repair bill on it. That is maintenance, and yet I know, just as well as I know my own name, that that car isn't going to last over a year or two longer, and if I were doing business in the right way, I would be setting aside a reserve so that when this car left this life, I could replace it. Now that, Your Honor is exactly what the telephone company does. It has a repair account, which takes care of the maintenance and the repairs to

the property as the operation of the property goes along and  
2783 then it has a reserve account out of which it replaces property as it comes to the end of its useful life. The Telephone

Company does not set aside an amount sufficient to build a new plant, that is an additional plant, it only sets aside such an amount as will enable it to replace property or parts of the property as they come to the end of their useful life. Any extensions or any additions to the property, we would make out of new capital. So that to sum up, what we would like to have Your Honor understand at this time is that this reserve for replacements hasn't anything to do with the actual amount of the depreciation in the plant, hasn't anything to do with repairs and maintenance and hasn't anything to do with extensions or enlargements to the physical property. Now, we are required, Your Honor, to set up this reserve for replacements, not only by the command of the Interstate Commerce Commission but by the command of the Courts as well. The Supreme Court of the United States in the Knoxville Water Co. case, City of Knoxville, rather, vs. Knoxville Water Co., reported in 212 U. S., 1, uses these words:

"Before coming to the question of profit at all, the company is entitled to earn a sufficient sum annually to provide, not only for current repair, but for making good the depreciation and replacing the parts of the property when they come to the end of their life. The company is not bound to see its property gradually waste, without making provision out of earnings for its replacement. It is

entitled to see that from earnings the value of the property  
2784 invested is kept unimpaired, so that at the end of any given term of years the original investment remains as it was at the beginning. It is not only the right of the company to make such a provision, but it is its duty to its bond and stockholders, and, in the case of a public service corporation at least, its plain duty to the public. If a different course were pursued, the only method of providing for replacement of property which has ceased to be useful would be the investment of new capital and the issue of new bonds or stocks. This course would lead to a constantly increasing variance between present value and bond and stock capitalization—a tendency which would inevitably lead to disaster, either to the stockholders or the public or both."

And the Interstate Commerce Commission, in its System of Accounts prescribed for Telephone Companies, on page 67, paragraph 23, says, under the title "Depreciation of plant and Equipment,"—"Telephone Companies should include in operating expenses depreciation charges for the purpose of creating proper and adequate

reserves to cover the expense of depreciation currently accruing in the tangible fixed capital."

And then follow provisions which define exactly what shall be included in this Reserve for Depreciation, which provisions will be referred to by *by* Mr. Hoag in his testimony and Mr. Hoag's testimony will also show how we arrive at the amount which is  
2785 set aside and the percentage. In this memorandum which

I have here in my hand, which has been handed to Your Honor and also to counsel on the other side are a great number of Commission decisions in which the percentages allowed for replacement are given, in which they vary all the way from five to ten per cent, indicating a general average of between six and seven per cent for telephone properties. There are two Supreme Court cases which have come to our attention in which a seven per cent has been allowed for this item. One of those cases is Cumberland Telephone & Telegraph Co. vs. City of Louisville, 187 Federal, 637, where the Court in discussing this matter said: "In our view, seven per cent of the value of the plant is the proper per cent to allow for depreciation." And in the case of Pioneer Telephone & Telegraph Co., vs. Westenhaver, 118 Pac. 354 the Supreme Court of Oklahoma said:

"In the foregoing case, the amount of annual depreciation in an electric light plant was involved, and held to be five per cent of the value of the property. In the opinion, it is said that the depreciation will vary from five to ten per cent, depending upon the circumstances of each case. We think under the evidence in this case, that seven per cent of the reproductive value of the physical property is fair and sufficient to allow for annual depreciation."

Now, Your Honor, to many minds depreciation involves only the idea of wear and tear and rot and rust. Now, those are only  
2786 some of the reasons or causes that tend to make it necessary to replace telephone property and they are only a small amount of the total causes. There are a great many other causes, for instance inadequacy and obsolescence and public requirements and extraordinary casualties, such as storms and fires and floods and all of these are referred to by the Interstate Commerce Commission in that account that I just read to Your Honor and defined by the Interstate Commerce Commission in requiring telephone companies to set up a reserve out of which to replace property, so that a more accurate term to use would be the annual reserve for replacements instead of the annual reserve for depreciation, and that is a term that the Courts and Commissions are now using and that is what we will use hereafter in referring to the item, the Annual Reserve for Replacements.

Mr. Howard: In regard to the remarks of Mr. Duls, Your Honor, we have nothing to suggest except that we are not at this time conceding 6.3 as a proper or a minimum amount that should be set aside for this purpose. We are not conceding that they are entitled to that earning or to set aside that much of the returns for the company for that purpose.

Mr. Duls: That is just exactly what we are going to show by Mr. Hoag, that that is a proper and correct amount to allow. What I say isn't testimony at all. It is only an effort to explain to Your Honor just what these different things are in rate-making.

2787 Mr. GEORGE P. PLAYER, called as a witness for the complainant and after being duly sworn, testified as follows:

Direct examination.

Questions by Mr. J. D. Frank:

NOTE.—The experience, qualification, etc. of the witness, George P. Player are set out herein at Pages 991-1002.

I am not an employee of the Bell Telephone Company; I have spent the most of my life fighting them. I mean by that that I was representing the Commissions, and on the opposite side of the fence from them; for the first ten years of my experience in the telephone business, I was with the Independent telephone companies that were in opposition to the Bell companies, and I would not say that I have been fighting them. The time I was with the Commissions I simply carried out the dictates of the Commissions as far as the rules and regulations are concerned and the law,—supervision.

I have made an appraisal of the property constituting the Houston Telephone plant of the Southwestern Telegraph & Telephone Company. With reference to the difference between an appraisal and value, an appraisal is just one method of measuring what there is in the property,—an appraisal,—to appraise a piece of property  
2788 does not necessarily say, does not mean that it represents the values of that property. In other words it is a measure of the value; one of the things which we use in determining the value of property.

I have figured out the economical construction period during which this property might be reconstructed. I went over this plant pretty thoroughly and am rather familiar with construction work of this kind and character. I estimated that it would take at least four years to rebuild this property. That would be the economical construction period of a property of that size. It would be physically impossible to do it in a year or two years or three years. There are so many things that go into a building of a property of this size or character in the way of preliminary organization and getting the thing started. It is engineering, the fundamental sites of where to put your lines and lines of conduit and everything of that sort, so that in order to do it in an economical way and to get the best results from the experience of the growth of the city in this, or that, or the other direction, and so forth, to take and make a plant spring up as a mushroom would not be economical. You have to take a reasonable length of time for the due consideration of all facts connected with the construction and use, the period of construction that would result in an efficient plant which would reflect economical principals. You would of course be anxious to get your plant into operation as

soon as possible so you could begin to receiving returns; that  
2789 is, that would be good business to do that, but you would not  
build your plant in a hap-hazard manner hardly, just in  
order to secure revenue. You are putting in something that is going  
to remain in here, this property is a permanent fixture. You do not  
want it blown down by the first little wind that comes along or some-  
thing of that sort, and you want to build something that is per-  
manent and so you begin on the sound principle of putting in some-  
thing that is worth while.

I have not made an inventory of the Houston Telephone property.  
I secured from the Engineer of the Company a copy of the inventory  
showing the quantities of various classes of materials placed in the  
construction of this property of this plant. The document you hand  
me is an inventory of the Southwestern Telegraph & Telephone  
Company, Houston Exchange, Plaintiff's Exhibit No. 13. That is  
the inventory made by Mr. Hoag and is the one I used. I had a  
true and correct copy of this inventory in making my appraisal. I  
made a check of that inventory for the purpose of determining  
whether or not it was accurate, that is, in order to satisfy myself that  
the inventory as taken by the company was accurate as inventories  
go. I selected, or rather just simply pulled out of the great mass of  
papers fifteen sections of the inventory field notes.

I had better explain that in this way; that when the inventory was  
taken the Company took a map of the City of Houston, and divided  
it into sections. Houston is so large that to have taken a single map  
and made an attempt to spot all the poles on the single map,  
2790 the job would have been so bulky it could not have been  
handled, so the Company elected to cut the map up into sec-  
tions and take the field notes relative to the individual sections.

There were sections of underground cables of conduit sections, of  
aerial cable, pole line, wires and in connection with each of these  
sections were the sheets showing the size and class of pole, number of  
cross-arms, number of wires, and the sizes and number of cable guys  
and all parts of the plant equipment. I did not in any instance  
with any of these fifteen sections check an entire section. A rep-  
resentative of the City accompanied me during the entire time, to-  
gether with a representative of the Telephone Company.

By the city there I mean that the City of Houston had a represen-  
tative go with me in making this check; Mayor Amerman appointed  
a man to go with me and see that the inventory was practically cor-  
rect. The name of the man was Mabry of the firm of Ernst & Ernst.  
Ernst & Ernst are accountants. Of those fifteen sections each section  
was checked at least 25 per cent, some as much as 50 per cent of  
the section and as in other appraisals,—inventories of this character,  
I found no differences that would make any appreciable difference  
one way or the other, in favor of the City or in favor of the Company.

I found errors in the inventory. One was where there  
2791 was a mistake made by those taking the inventory as on Sec-  
tion No. 2 of the Hadley District. They had shown on that  
966 feet of 200-pair cable and it should have been 100-pair cable. I  
will say this, that the inventory sheets, I haven't one here, had the

different sizes of cables in the columns headed, 25, 50 etc., and they had made a mistake and gotten the number of feet into the 200-pair column instead of the 100-pair. That was a mistake against the City; the next discrepancy was on Section 15 of the Hadley District. I found it short one down guy. Now, in money, I guess that would amount to as much as \$6.00.

"Q. In money, how much would that difference in cable amount to where the mistake was made against the city; you had 966 feet of 200-pair cable which turned out to be one hundred pair; just make an estimate of that?"

Mr. Howard: Aren't you familiar with that enough to approximate it?

"A. Mr. Howard, there are thousands and thousands of figures in appraisals of this kind and I can't remember all. Yes, a difference of about \$425.00."

Mr. Howard: We don't want it exact.

"A. Well, it could have been—yes, about \$425.00."

Yes, I found other discrepancies in the inventory. That down guy that I spoke of, that might have been removed between the time the inventory was taken and the time we made the check.

2792 On the underground cable in Section No. 7 the Company had omitted 966 feet of 200-pair cable, that is, the inventory was short that much. That would approximate,—I do not remember the prices of these different sizes, but it would be about \$500. There was also short 200 feet of four duct conduit. Those errors were against the company and are practically all the errors that I found in the inventory.

"Q. Well, now, did you make your check of this inventory in the same manner that you always make checks of other inventories when you were connected with the Commissions?"

"A. Well, I will say that, that exactly the same method was used in the St. Louis plant; we checked several sections and found them to be virtually correct."

I have seen several hundred inventories compiled and I have checked thirty or forty different ones and the discrepancy for or against the Company is so small that it would not amount to half of one per cent, and the Commissions have seen fit to accept the inventories as being correct. That does not eliminate omissions and contingencies, those things happen. I am speaking of the actual inventory, that is, the way it is made. I satisfied myself that the inventory was as nearly correct as I could get it.

After remaining here in Houston about two weeks going  
2793 over all this property and making this check, examining the property as to what condition it was in, and so forth, talked to residents of the city, taking into consideration the character of the town, the probability of improvements, etc., taking into consideration



all those things I went back to St. Louis, took the inventory figures, showing the different amounts of different materials in the plant, and made up my appraisal in the City of St. Louis.

When I was employed by the Southwestern Telephone & Telegraph Company to make this appraisal they did not instruct me as to how they wanted the appraisal made. I was called into the office of the Vice-President of the Company, and he told me that he understood I was free to do work of this character. That they had an appraisal of the plant in Houston; that they wanted an appraisal made up and asked me if I could do the work. I told him I could and he said, "all right, go ahead and see the people at Dallas and get what information you desire relative to it, and go to Houston and do whatever you care to do down there relative to the matter, and when you take your inventory or however you expect to do it, make up your report and submit it to us." I was not instructed to make up my appraisal in any particular way. Mr. Elias, the Vice-President of the company told me to use my own judgment as to how I should make this appraisal.

2794 I will say this, Mr. Frank, that I have made this appraisal just exactly as I have made the appraisal for the Missouri and Oklahoma Commissions, and if I were appointed by the City of Houston to make this same appraisal, they would have gotten the same report, figure for figure, that you have gotten in this instance. It would not have made a bit of difference to me one way or the other. I had had my appraisal printed.

Mr. J. D. Frank: We desire to offer this Exhibit reading: "A report on appraisal of property of the Southwestern Telegraph & Telephone Company, local telephone plant, Houston, Texas." And in the lower right hand corner: "Telephone and Electrical Service Bureau, St. Louis, Missouri." into evidence as Complainant's Exhibit No. 36.

Said Exhibit marked Exhibit No. 36, Geo. P. Player Witness" is transmitted herewith in Exhibit File."

In all of the appraisals that I have made in the last ten years, it has been my policy and plan, accepted by the two Commissions that I was with, and by the Courts, both the Oklahoma Supreme Court and the Supreme Court of Missouri, to use a five-year average price for materials in estimating property, and this report simply reflects an estimate as to certain classes of telephone property 2795 in place. It has been deemed wise, and some of the best Engineers in the country have adopted the average period of five years for materials; that is, they take five years preceding the hearing and use the average prices during that length of time; that is right. The five-year average prices which I have used here are between the years of 1914 to 1918, inclusive; that will give you the prices of five years for materials. There are several reasons for my using the five years average. During the last ten years I have had the prices of all *prices* of equipment used in the construction of telephone plants from various manufacturers, and I had all those prices, or nearly all of them, in my office. They seem to be the set of

prices and to use the average of five years, stretched over a period of time when you have high points and you have low points, both in labor and materials, so that in making an estimate of any property I always considered it fair to use the five-year average prices.

I do not think that I could reproduce this plant at the present time at the figures used by me as the cost of producing this Exchange based on the five-year average price. In my opinion, it would cost to reproduce this Exchange, based on present-day prices, from thirty to forty per cent more, a million six hundred thousand dollars (\$1,600,000.00) more than figured on the five-year period. I would not undertake to reproduce this property here at the figure used by me based on the five-year average; it could not be done. This is just simply one measure to show what materials of this class and character in place might cost.

I have been familiar with the prices of materials for the last fifteen or twenty years, and am familiar with the present prices and cost of materials in a general way. I might qualify that answer by saying that I have talked to the owners of some of the largest  
2796 plants operating in the country, not only telephone plants, but, for instance, the Engineer of the United Railway Companies of St. Louis. At the present time the Engineers of the Missouri Public Service Commission are making an appraisal of that property, and have been at work on that for the last nineteen months. The United Railways Company operates all of the street railway systems in St. Louis and in St. Louis County, and is about a fifty million dollar concern. I do not know as yet what valuation the Engineers will find, but the Engineer for that company, the Engineer for the Union Electric Company, that supplies most of the light and power in St. Louis, the General Manager and Treasurer of the Stromberg Carlson Telephone Manufacturing Company of Rochester, New York, the Sales Manager of the Automatic Electric Company, Chicago, the Engineers of the Missouri Public Service Commission are the people I talked with. I have talked with these people in the past two weeks, and all are of the same opinion; that there will be no reduction in prices, nor will there be any reduction in labor, not only in the next year, but in the next ten years; they do not look for it. Yes, it is my opinion that we will not have any reduction in prices during the time that we have to reconstruct this property, and my opinion is based on the conversations with the other men, that I know are reputable men.

Some of these things, that, in my opinion, will prevent any reduction in prices of materials or reductions in the labor cost in the future cost, or say, during the four-year period of the ten years that

I spoke of are demand on the part of the public which is as  
2797 good a measuring stick as could be used; the demand for increased facilities for larger office buildings, more modern office buildings, the demand for greater convenience in the mode of travel, has a tendency to keep up the prices. The working man, laboring man is getting nearly twice as much today as he got three years ago for any service that he performs, he is riding to work now in a Ford or Dodge, some of them in Hudson cars; they are making

anywhere from ten to twenty dollars a day, and they can have the pleasure that they never had before. They live better in every way, live in better houses, and they are not going to be satisfied to go back to what they were living under, not enjoying, but simply existing three or four years ago. They have got to have more dollars in order to keep up. They are not going to be satisfied with less dollars. All of these things have a tendency to keep the price of materials up, because the manufacturer will have to pay the price that labor demands. Now, then, if labor keeps up, and most assuredly it is going to, then the products of labor are going to be just exactly in proportion.

Investigation in average cases of all prices of manufactured products shows that 55 and 60 per cent of the manufactured article is labor charges, and about 40 per cent raw material charge, that is, raw material prices, and as long as these high wage schedules continue we cannot expect any reduction in the prices of material. There is nothing at the present time which would indicate that there may be a reduction in the prices of labor; to the contrary, there is everything to indicate that there may be an advance. I base that statement on going back to the demand for this, that and the other thing; the strikes occurring daily, men walking out, and they  
2798 get back to work at a higher wage schedule than they were getting. There is more money in this country, more gold than there ever has been, and as long as there is an abundant supply of gold you are going to have a cheaper, or rather more expensive line of production.

Getting back to the prices of material, and my statement that I have been familiar with the prices for the last fifteen or twenty years, or that I have been considering them for that length of time, I can qualify that by saying that, Mr. Frank, that during the construction of the long distance lines from St. Louis to Joplin and Pittsburg, Kansas, I handled every bit of the material that went into the construction of these lines, which was over half a million dollars' worth of materials, that is, I was acting largely in the capacity of assistant purchasing agent; I had to check all the materials, saw the prices and everything of that sort. Then I have acted in a similar capacity with the companies I have been connected with subsequent to that time, materials of all classes and character; then I have had the advantage of having the price lists on all classes of materials from the various manufacturers ever since I have been connected with the State Commissions, and so I may say that I am fairly familiar with the price of materials.

With reference to what has been the history say for the last fifteen years, with reference to the prices of materials, bought to approximately the middle of 1917, beginning at from 1901 to the middle of 1917, there was a gradual increase in the prices of all classes of material. That is, a gradual upward increase. It is true  
2799 that at various times there have been fluctuations in material prices and they would go down a little bit, but invariably, you might say, there was a reaction in the market, especially in the min-

eral line, zinc, copper and lead, and when the reaction came after a decrease, these fluctuations, the price went up just a little bit higher than it was before the fluctuation, and the trend price on all classes of material since 1901 up to the middle of 1917 will show a gradual increase, besides the minor fluctuations right up to the middle of 1917, a gradual increase. On the whole that is comparatively even from 1901 to 1917, that is, it is comparatively upgrade. There was no great fluctuation in the price of any particular product that would cause it to jump and go way up; it would just simply be a gradual rise, right straight up to that point, that is, up to the middle of 1917.

At the beginning of 1917 this country got into the world war, and the demand for iron and metal products, especially was so great that it increased the prices of material rapidly, instead of having a gradual rise in price of material, you had a jump anywhere from nine to one hundred and fifty per cent on various classes of material, that is, after the middle of 1917. Then, of course, in the interim, between the middle of 1917 and the first of 1919, there were fluctuations, just the same as you will find during any period, but the prices have remained pretty high, there has been no decrease. In my opinion, the war is responsible for some of the increases in the prices since 1917 but not all of it. Demand has made the increased prices as much as anything else. I would not say that the war brought about this demand, I would not say altogether, because people

are beginning to live, and have been for the last two years, 2800 in, you might say a different attitude than they ever lived before; they are living better and want more, the higher wages paid, and everything of that sort, why, has just simply been one of the things to help bring those things about. I thought I indicated that the war prices hit the United States by saying the middle of 1917. The history of the prices of material show- that the sudden jump came along the middle of 1917, in this country, I noticed it especially in my lists from various companies that prices quoted, that there was no appreciable increase in any other than a general increase in any class of products until the middle of 1917, and then the manufacturers, the producers began writing letters, sending out letters please do not ask for quotations, the market is fluctuating so rapidly that we cannot give you anything that is consistent.

In using the five year average basis on 1914 to 1918 inclusive prices, why just take an actual division on the time that I have said, the jump coming in the middle of 1917, I would consider that I had three and one-half years of pre-war prices, perhaps, nine years,—nine months of prices that were gradual rises, and nine months of prices that were high. You could not exactly say, for instance, that they were anything like today, without being *being* the present price for it.

In following out the methods that I used before the Commissions I have taken this five year average period because I wanted to be absolutely consistent with this work as compared with the work I

had done in other cases, the work that I have done in the 2801 last ten years, and in order to do that it was necessary for me to use the five years average prices as far as I could obtain

them. I thought that it was the thing to do, and so, as I was given you might say, a free rein to go ahead and make an appraisal as I saw fit, and that's why I saw fit to do it.

From my knowledge of the history of the prices of materials, the present condition of the markets and so on, I do not think that the pre-war level of prices will ever be reached again. As to why I make that statement I would really have to go over what I have already stated, the demand on the part of labor, on the part of the people generally for modern equipment in every respect.

Neither Mr. Hoag or any other engineers have worked together with me in making this appraisal. As a matter of fact, I heard yesterday, sitting in here the figures that Mr. Topping makes. I do not know as yet what Mr. Hoag's testimony is, and I saw none of his work relative to his appraisal, in fact, we had no conference about any conditions in any way at all on that. I worked entirely separate and independent from the other engineers; my office is in St. Louis in the Wainwright Building, several blocks from the telephone company's offices, and I just simply worked this thing up myself. Topping lives in Kansas City, and Hoag in Dallas.

2802 Cross-examination.

Questions by Mr. Howard:

Appraisal and value are not the same thing. There are a few things there, Mr. Howard if I were going to make an appraisal of any piece of property, take this table for instance, I would appraise it and say it is worth \$60.00, but that doesn't say it is the value of that table. Now, then, as to whether Mr. Topping is right or wrong in placing his appraisal as the value of the plant, whether his theories are right or wrong, I would have a little hesitancy in not wanting to say.

I think that four years would be the economical construction period within which to build this plant. I have never built a plant like this. I have seen one built and built in four years; Oklahoma City was a comparable plant.

"Q. They built it in what time?"

"A. To an operating standpoint where they would attach the business and pay earnings——"

"Q. (Interrupting.) Now Mr. Player——"

"A. (Interrupting.) Wait a minute, if you want me to answer the question, I haven't finished."

"Q. I don't care for any lecture on the proposition. I asked you if you knew of one plant, and you stated one was built in Oklahoma City, now you have answered my question."

Mr. D. A. Frank: Now, if Your Honor please, I want to object to that procedure; throughout this entire proceeding Mr. Howard has refused to let a witness answer a question, he has continuously harrangued with these witnesses, and we want to most seriously object to any such procedure as that. If his answers are not responsive I think Mr. Howard has the right to make

2803

his objection, but I think the witnesses have a right to answer the questions whenever he propounds them.

Mr. Howard: If the court please I asked him one question, and he has told me Oklahoma City, but I am now asking him when and where he saw a plant built up in a city that already had a growth of one hundred and sixty thousand people, with twenty-seven thousand subscribers attached, when did that occur, Mr. Player?"

"A. They haven't that many subscribers in Oklahoma City."

I have never constructed, nor have I ever seen one like that constructed of this magnitude in four years under construction similar to the plant in Houston; never have. I never expect to see one, because the country—. I do not know of any in the history of this country of a telephone plant that has been built in a city of this size,—a plant of this magnitude nor have I ever heard of one being built.

I have not been in the telephone business practically all of my life; My operations have been confined to an area comprising two states, you might say of three states, Missouri, Illinois and Oklahoma, and there are a great many telephone plants in other cities outside of those three states. I have somewhat familiarized myself with things outside of Missouri and Oklahoma, but you know you have a pretty big extensive territory. I keep in mind something of what is going on over the country; we follow as thoroughly as possible what is going on.

2804 I am merely estimating and trying to conjecture what time it will take to build a plant when I am talking about building a plant that has never been built in a city of this size, and in all human probabilities never will be built but I want to qualify that by saying that it is sound engineering principles to make an estimate as to what length of time it is going to take to do any piece of work; as to how long your plant is going to be under the process of construction before it begins to earn any return, how much longer it is going to take to attach a certain number of subscribers; how much longer it will take to attach more subscribers, and then taking it up to the fourth year, the end of the fourth year period as to what it is going to do at that time. It is sound thinking and principles to make a set up of that kind. If you want to call it conjecture all right, but I am going to call it sound engineering principles.

"Q. That will be all right, we don't get very near together on that. Now, if a plant had been built under anything like similar conditions and reasonably managed and it took a certain amount of time to build it, you could make pretty fair conclusion from that to how long it would take to do the job?

"A. If we were going to take any sized plant and try to build it today, we would know about when the plant would be completed, when it began operating and we were doing a pretty good business, as to just how long it would take to do that work, just how much it would cost, and how much it would cost for each class of the business attached to that plant.



2805 "Q. Mr. Player, it being estimated by two engineers that have had a good deal of experience in telephone work, they stated it could be built in a certain time, and you, another competent engineer, of a great deal of experience in telephone work, say it will take one third longer to do the work, that is evidence of the fact, that it is a good deal of conjecture and also a matter of a very great deal of latitude in which they may differ"?

(Objection made by counsel for Complainant, and afterwards withdrawn".)

"Q. Where other engineers assuming equal equipment state a time that it will take to build it, and you come along and state a time one-third longer, does that suggest anything to your mind as to the accuracy of your conjecture on these matters?"

"A. No, it don't suggest a thing except this: that I am making one estimate, someone else is making another, and someone another. You say I am one-third longer than the other two, and it might look as though the other two were right, they bring two against one. This is just simply a matter of estimate."

It is my best judgment.

I am not somewhat of a political economist; I am just an ordinary engineer. I haven't written any book or anything of that sort on the subject of economics.

(By Counsel for Complainant.)

I have not written any books on storage batteries.

2806 (By Counsel for Defendants.)

I feel very thoroughly assured that these prices are not coming down.

"Q. You say that the engineers for public utilities over the country would advocate that fact in regulating these rates, basing their values on it, the property values"?

"A. You have used the wrong word, I didn't say advocating it, I said it was their best judgment, their best opinion".

They might advocate a certain thing and express themselves about a certain thing, and it would be two different things, absolutely. I wouldn't want to express my opinion on it as to whether or not it is the same thing. The engineers are still in the employ of the Public Service Commission; the Commission doesn't control those employees that way.

I say that labor has advanced generally since 1914 fully 50%; some classes may have advanced as much as 100%, but I am speaking generally. When I stated that labor now would never go down because they have got accustomed to those luxuries of life, such as Dodges and Hudson automobiles and a few little things like that, I just mention that to show what the laboring man is enjoying now. He is enjoying better living facilities and everything owing to his increased wages than he ever did before. I did not make

the further statement that his wages now would be only about a third, that his dollar had shrunken down to where it only had a third of the purchasing power; you misunderstood me. I said it would buy about 30% less, in other words it is worth about 30 cents now, where three years ago it was worth a dollar. I know things have gone pretty high, so that then insofar as the enjoyment of better times and things like that is concerned, the laboring man is not getting much more than he could in 1914. He is getting more dollars; he has got more dollars in proportion to the shrinkage. I have no more accurate data on that than the wages that we know are paid different classes of labor.

"Q. You don't know in effect what the general wage average increase is, do you"? You have never figured out and don't know?"

"A. Now, let me give you an example."

"Q. No, I am not asking for an example. I am asking you the general average wage increase. You can figure out plenty of examples. I can cite you to a whole lot where they have probably gone up over 100%. I am asking you if you have merely if you have ever brought your mind to bear upon this question, because you have undertaken to tell us about the underlying causes?"

"A. Yes, sir." I have never made a study of this proposition to the extent of determining the average general increase throughout the country in labor cost, more than examining the wages paid the different companies,—by different companies. I find in some places they may have raised them 50%, some places, maybe 70%, and some places 30, but I have never acquainted myself with the general average all over the country. Yes, sir, I have acquainted myself with the general average of the necessities of life of the things ordinarily purchased by labor, I know pretty well what those things are.

Yes, sir, I have put in some particular time to determine what the general increase in foodstuffs and clothing and shoes and school books and things like that has been; I know just exactly what they have been.

"Q. Well, what is it? What is the general average?"

"A. You mean, what has been the increase?"

"Q. Yes?"

"A. Well, shoes have increased——

"Q. (Interrupting.) No, I am not talking about shoes——

"A. (Continuing:) All right, you asked me about shoes."

"Q. Yes, I asked you for the general average, and I asked you if you had ever—it won't do us any good now to pick out any isolated cases of shoes and things of that kind. I am asking you now as a man that is undertaking to enlighten us upon the effect of your observation upon the world's future, and the business world's future, and the business world, what study you have made and whether your study carried you to the extent that you have determined approximately the general average increase in the cost of living."

"A. You asked me the direct question if the cost of shoes, school-books, etc. had increased."

"Q. Well, we all know that. Any school boy in the land knows that. What I am trying to get at, I am trying to test your information to see how far we should rely upon it in fixing this rate. Now, you are undertaking to tell us that laboring men 2809 enjoy so much better conditions than they used to, they have got in touch with high life, they are not going back to the hard days"?

"A. Now let me answer the question, please sir."

"Q. All right".

— I have lived in the communities for several years where I have been associated with the farmers, the merchants, the poorer classes of people, the laboring classes of people, and people in all walks of life. I know them personally. In the war work, and in other classes of work, it has come under my observation as to the way they live, what they produce, what their children wear, what their wives and themselves wear, that is the different kinds of people that you meet, what kind of houses they live in, whether they ride on street cars, or in automobiles, and I know from being with those people, the farmers for instance, they have increased the kinds of machinery they use, they have discarded the horse and the plow and are using tractors, the laboring man is wearing better clothes, and his children are wearing better clothes, he lives in a better house, and it is all due to the fact that he is getting more money. It is true that he is having to pay more money for the products of life, but he is getting more money with which to pay for those products.

My knowledge that I have given here is certainly based merely upon the scope of my personal observations, and in 2810 addition to that, I might say, that I have talked with other people that are familiar with the same thing, and they agree.

I have never heard of what they term "the vicious circle". You don't hear it talked. You can take up any newspaper or any magazine and read it, it is all printed.

"Q. Well, it is the same thing, you get the idea, whether a man is speaking or writing, it is evident that it has been conveyed to you, the idea of this vicious circle, about the cost of living coming up to meet wages, and then wages going up to meet the cost of high living?"

"A. I wouldn't term it vicious, I think it is just the natural trend."

Yes, I think it is just the natural trend; the trends of wages, and materials and all has been gradual for the last twenty years.

"Q. Now, all of this has been based merely upon what you observed, the same as any other man observes on the street car, or do you come here to give us a special knowledge concerning those things, Mr. Player?"

"A. Why, my general observation, my experience in the business—

"Q. (Interrupting.) Just as any other man, Mr. Frank, or myself?"

"A. That had investigated those kind of things, that had really paid any attention to them, yes."

"Q. So you don't base it upon any figures and you are not telling us now that you have made a study, so that you can give us the general average of the cost of living or the general average 2811 of the cost of labor for the last 25 years?"

"A. I have not reduced it to percentages."

"Q. You are talking in generalities?"

"A. I am talking of general observation, yes."

No sir, I did not know that when the coal trouble was up over in England after a rise in wages, that there was an investigation made, and it was found that the cost in labor, that it was being contended that the cost of labor was the reason why the coal was laid down at the manufacturer at such an enormously increased price and that an investigation of that matter disclosed the fact that the added cost of labor was but a very insignificant part of the added profit that the manufacturers had to pay. I have never followed up those things to any great extent in England, nor have I made any specific investigation in the United States. Laboring people have to have coal generally.

"Q. Well, now, tell us any particular thing where you have given it any—have followed up any scientific or have familiarized yourself with any investigation along any particular line of products?"

"A. Why, with the investigation of all of the materials and equipment that are contained in this report, I am."

"Q. Oh, you mean, you have gone through catalogs and found that the prices of these materials that are necessary to reproduce this plant, is that what I understand you?"

"A. You can call it catalog, price lists."

2812 Yes, sir, I can tell you some of the underlying principles of what the coal miners are striking about, they want more money, and want better living conditions; I do not know of any other thing.

"Q. Well, now, to be honest about it, to get right down to it, you are a valuation engineer that devotes most of your time to valuing these properties, and taking them out and making an inventory and going to the catalogs and applying the prices and you don't and haven't and wouldn't pretend to have any special knowledge concerning the effect of prices in the future?"

"A. Yes, sir, I have."

"Q. Just as any ordinary man upon the streets that comes in contact with and talks with his fellow men has?"

"A. No, sir, in valuing these properties and making his appraisal——"

"Q. But, I mean——"

"A. (Interrupting.) Wait a minute, let me answer your question".

"Q. I am talking about your investigation that you have made in these collateral matters that control prices?"

"A. You want me to answer that question?"

"Q. Yes, sir, I would be glad if you would answer that particular question."

"A. I have made the investigation, I know this, that the demand for materials of all classes and character that go into telephone plants, electrical plants, water and gas plants, have gone up in price, are what are called high prices at the present time, and that it is  
2813 the general opinion of men well-versed in all lines of business that the prices are going to even go higher."

"Q. It is."

"A. And naturally I am interested in knowing that subject because I may be making an appraisal of another plant a year from now, and I want to know what the prices are going to be there."

"Q. Did you happen to observe the statement made by the successor of Mr. Hoover,—you know who Mr. Hoover is?"

"A. Yes, sir."

"Q. You know that he has recently retired and a successor has followed him?"

"Mr. D. A. Frank: Who is his successor?"

"Mr. Howard: I don't know, I have read his name, but I don't recall it, but you know that he has recently made the statement that prices, or the cost of living would in all probability reduce at least 25% by the first of June?"

"A. No, sir, I didn't know that. I don't know, that his opinion, his personal opinion on that proposition is worth any more than mine"

"Q. Now, that is what we are getting at, all that you are volunteering now is just personal opinion, and these men who told you, you are basing it upon their opinions, aren't you? Why not take Mr. Hoover's opinion?"

"A. We may not agree upon the same principles."

2814 Yes, sir, I say that there has been a natural rise in prices for fifteen years. I have been familiar with prices from 1901 up to the middle of '17.

What I call gradual is starting out with a dollar in 1901, in each month it raises one cent, one cent, one cent, right up to the present time, that is gradual. I am not telling you that the price trend from the year 1901 to the middle of 1917 was just that way until it got up to the middle of 1917; I did not say that. I said at times, there are fluctuations in prices of all due largely to the market. I have a diagram that I prepared myself some years ago on poles; I just happened to have it. I want to just show you this. It shows the trend. It shows the fluctuations down and up, and it shows the trend, a gradual increase. I wanted to just show it to Mr. Howard as an illustration.

"Q. Well, this is on poles, it is rather confusing here, this particular diagram to me. Let's take the 25-foot pole 6 inches at the top."

"A. I would have to introduce this then if you want it."

(By Mr. D. A. Frank:)

"Q. You can make copies of it then, can't you?"

"A. Yes, sir."

(By Mr. Howard:)

"Q. Well, just let it go. I won't ask any further about that, Mr. Player, but I would be glad if you have the data, not alone upon poles, but upon other things that go into this thing, I think you are probably mistaken in your proposition that there wasn't a very considerable rise, that the rise was not abrupt then, I think you will find that a very marked rise began  
2815 about 1916, and that during 1917, it may have reached about the high point, but I will be glad if you will get us that data if you can, if you have got anything to show it."

"A. I can prepare that for you if you desire it."

"Q. I would like to know. Well, now, Mr. Player, as I understand your inventory, or your appraisal, you take the year 1914, and take five years back from 1915, and you get what you call "the average prices"?"

"A. Well, sir, I used the years 1914, '15, '16, '17 and '18. That is five years."

I took the average prices on the classes of material that went into this plant for that period of time, that is, the prices that prevailed during those four years, and divided them by five. I cannot tell you how much that would be in advance of the prices had I valued it upon the 1914 valuation or prices; I have never figured it any way accurately. Well, for instance, I can do this for you right now. I have the appraisal with me that I made of the St. Louis plant, and I can compare the pole of any size. I will give you enough items to give you a comparison. Now, this appraisal in St. Louis was dated December 31, 1913. That was right at the beginning of 1914. Now, if you will turn to page 20 of my appraisal, that is Northern White Cedar Poles, what are known as classification poles, and it seems to be one of the items of discussion.

2816 Take this same pole, 25, 6 inches at the top, and it is designated as 25-foot Class C, that would be approximately a 6 inch top. A 25-foot Class C Pole was put into the St. Louis case at \$5.18 as the unit cost, and this figure is \$8.21. The percentage there is about 60%.

Poles are one of the major items in a telephone plant of this kind. All right I will give you another major item, go on down that page to a 30-foot Class C Pole; the poles would carry the same relative price 30-foot all the way through. I will take some other character of equipment, turn to page 39; that is underground cable, and take the last item there of 400-pair cables; the unit cost of 400-pair cable in this appraisal today is \$1.7459 cents per foot. Now, I haven't a comparable figure with that, Mr. Howard, because that is pure lead sheath cable, and they didn't have any of it in St. Louis. If you will turn to the next page, please sir, page 40, and take the other item on that, 400-pair cable; the item there is \$1.1834 per foot; the price used in St. Louis was 92.49 cents, just about the same general increase. That would be about 30%.

As to the next large item that I consider important you can take the underground conduit, page 32. Let me find a comparable figure



with that. Run down the column there, Mr. Howard. This is on page 32, until you come to 11 ducts—four wide; the unit used in this instance is 2.1308 per duct foot,—per trench foot. In St. Louis, the comparable figure was \$1.9080.

The central office equipment is not comparable to Houston. This is pretty nearly what would be termed a "cable plant." St. Louis had a great deal of aerial wire at the time we made this appraisal.

There is not a good deal of aerial work in this plant now; it is a very small item in this plant. This plant is an aerial and cable and underground, very little open wire.

There are no other large items that I think of in the St. Louis plant that I could compare to this, that is, they have approximately the same class of buildings, and those kind of things, but not exactly the same size.

I have not said that the value I have adopted here and applied to my inventory is perhaps 30% less than the value to reproduce it now; I mean the estimate of reproducing certain property. What I testified to this morning that it would cost about 30% more at the present day.

I could not tell you what the general increase of my prices are over the prices in 1914; I never figured that out no more than to make this comparison; I had no occasion to go back to that at all, you know, and it didn't have any bearing. I have used just identically the same principles as used by engineers, for instance, Sloan, Huddle, Fuestel & Freeman, Hagenah and Lamb.

In percentages the cost in this plant in the way I have reproduced it here, and would be above the same method in 1914. I can give you my best judgment on that, I would say about 40%,—maybe 30 to 40%. I estimated the price of reconstruction based on an average price over five years, and that is what this business is here. I say now that there was a general line of increase in material prices from 1901 to the middle of 1917, and that was fairly regular. That same per cent of increase applies practically to the cost of labor during those years. You will find this, Your Honor, that no matter what the material prices are, that the material prices will be just a little bit higher than the labor prices, no matter what time you select them. For instance it has been shown, time and again, that the percentage the labor cost bears to the material cost, the years '14, '15, '16, '17, '18 and '19, that the labor prices are just a little bit lower than the material prices, that is, the percentage they bear, the per cent of labor to material is practically constant.

"Q. Just a moment you make these pictures like our friend Topping and draw lines?"

"A. The curves, yes, sir."

"Q. You see when you have simple minded people that are not mathematical folks, you have to draw pictures like you would for a child, to make things plain. Now, suppose you—you seem to be an obliging gentleman, you do this for me in a general way, you understand I don't want to lay any burden on you, you project the line of

cost on this proposition according to the general average established from 1901 to 1917, just project that line as if there had been no perpendicular rise in prices in 1917."

"Mr. D. A. Frank: That is known as the trend price."

"A. That is known as the "trend price," sir."

2819 "Q. Thank you, well, I didn't know what it was known as. I just figured that. Well, then, just to help me understand it in my simple way then, you indicate your reproduction price based on your five year item. Then indicate for me, as best you can in a general way the reproduction price as it is today, would be on prices as of today, and then the prices on the general trend of it, just do it in a general way, and make a picture of it so I can understand it?"

"A. Yes, sir."

I can fix that up for you.

(By Mr. D. A. Frank:)

"Q. I want to ask you one question: Mr. Howard asked you about whether or not the food prices were not coming down. I will ask you to read one sentence from the Associated Press from Washington in the Galveston News published on the front page of the paper."

"Mr. Howard: You are offering the paper in evidence?"

"Mr. D. A. Frank: Now, I am asking him to read one sentence published in the Galveston News today."

"A. Washington, Jan. 22. Twenty-two articles of food reached record prices in December, according to a report issued today by the bureau of labor statistics."

Redirect examination.

Questions by Mr. J. D. Frank:

2820 "Q. Mr. Player, making a comparison of the prices that you have used in this case, and the prices that you have used in the St. Louis case in December, 1913, you say that the poles, or rather the prices that you had used on poles in this case are approximately 60% higher than the prices that you used at that time, that underground cable is approximately 30% higher in this appraisal than in the one that was made in 1913. Can you explain why the poles are so much higher than the underground cable, and other classes of equipment?"

"A. Off-hand, Mr. Frank, I don't know whether I could do that, except in this way, there has been a general increase in the installation of all classes of plant, the demand for poles has been a great deal greater than has been the demand for cable."

I know something about the supply of poles; it is very limited. The fact of the matter is that today pole people are very much worried as to where they are going to get their supply of poles within the next few years.

As to whether or not it is a fact, that during the ten years that I was connected with the Public Service Commission, that the Commissions and the courts relied on my judgment with reference to material prices, and the values of the properties which I appraised, I do not like to talk about myself, but both the Oklahoma Commission and the Missouri Commission never questioned my judgment on these things because I did what was absolutely fair in all these things. I didn't put it up any more for the Commission than 2821 I did for the people.

In the lower left hand corner of that page is a note, "C. N." denotes cost new; C. L. D. denotes cost less depreciation. I mean by that reproduction.

The first column represents my estimate or appraisal of the different classes of property that I found in Houston, using a five year average price for materials and labor, and the second column "C. L. D." denotes the relative cost or appraisal of that property after the conditions per cent, or depreciation had been deducted. The first column shows the reproduction cost new based on my five year average prices, and the second column represents the reproduction cost new, less depreciation based on my five year average prices; that is correct.

As to how I determine the condition of this property, or per cent condition on the various items on property, in making my check of this property, while making the field check, I took particular pains to inspect all of the property that came under my observation, such as poles, wire cable, cable boxes, cross arms and any other equipment that was used in the construction of the plant. After I had finished the check of 15 sections of the plant, I took a machine and drove over practically the entire plant. I stopped in different places, and got out and examined the poles, cable and wire, and made notes as to the general condition.

With reference to the kind of examination of the pole plant for the purpose of retermining the present condition of that property, I will tell you just how I did. In examining a pole, we had 2822 pick and shovel with us, and I scraped the dirt away from around the bottom of the pole, and took a long sharp knife that I have used for years for that purpose, and jammed it into the pole to see if there was rot or decay there, and in several instances climbed the pole, looked at the top to see if the top had rotted, if there was any chance for being watersoaked, the heart (as we say) rotted out of the pole and just a shell there. The same is true of cross-arms. I examined the cross-arms and I have inspected so much of this kind of property that I know pretty well just the shape that it is in by looking at it.

With reference as to whether or not that is the method usually employed by engineers in determining the per cent condition of the physical property of the telephone plant, that is the only way that the condition can be determined, that is, to go and see the property.

You cannot take life tables and tell anything about the condition of the property; life tables do not mean anything. A life table is

drawn up showing presumably the length of time any particular plant will last, kind of plant. I have such a table on the back page of this report, but it does not reflect in any sense of the word the age of the property as it stands nor does it reflect anything relative to the value of the property. You cannot take a life table and from that life table find out the condition of it. A building will last fifty years, we will say, that has been built ten years. One-fifth of the building is gone, if you had to use a life table where as a  
2823 matter of fact if you make an inspection of that building, you will find that it is practically as good as new for all intents and purposes.

The use of a life table is for the purpose of determining what amount of money or what per cent of money should be set aside in order to take care of the natural rust, rot, decay and depreciation and replacement of the plant during the estimated life, and obsolescence; so that when you examine it, the building might be in almost perfect condition, and still you might have a reserve to take care of it when it comes down,—that is true. In other words, in your reserve fund for depreciation you would have to take care of something more than mere rot, rust and decay; if you didn't have something more than what would actually take care of the business, of rust, rot and decay, why, you should be in a mighty bad fix.

I have never known of a rate case in any place where they determine the per cent condition of the property in any manner other than the manner in which I have determined it in this case. It is not only my opinion, but is the opinion of engineers in general, that this is the only manner in which you can determine the per cent condition of the physical property.

I said that I testified in something like one hundred cases, and in every case I have been in there was an expert on the other side who had determined the per cent condition of the property that was in question and they all determined it in the manner in which  
2824 I have determined it in this case. I would be afraid to go to the books of any concern that had a piece of property and had bought it in 1910, and they tell me that that property would last for twenty years, and from those books make a deduction of ten years or 50% of its value because the property was 50% or one-half of its age, approximate age, lapsed, gone, the property. I might put such a figure on it, 50%, and go out and look for that property, and they would absolutely have taken it down and destroyed it or burned it. I could not tell whether the property was there unless I would go and see it. I might go and look at it and find that instead of its life being half gone, that it was practically new and the book would be no indication that the life was half gone. That is especially true where they are replacing the property from time to time; it necessarily has to be. In a plant of this magnitude I know from my experience in the business that those replacements and changes are occurring daily.

## Cross-examination.

## Questions by Mr. W. J. Howard:

In by appraisal I carry forward the per cent condition to the different items and elements of the plant. I have no total prepared on the general average per cent condition on the whole plant; I just depreciate each one separately, but for your information, I 2825 just made this calculation that the plant as a whole according to my figures, is in about 88.7% condition. I first take the land and do not depreciate that any. Central Office equipment is on page 9, I take buildings and I applied to some 70%, and some 80 and one 85. I depreciated those as I went along. In other words that is the condition per cent that in my judgment those buildings were in.

Yes, sir, it is true that I think per cent condition relates only to the physical condition of the plant as compared to its new condition. For instance, you take the warehouse here, \$300.00, and I say its per cent condition is 70%, which would make it cost less the physical depreciation \$210.00. That is set aside for the purpose of taking care of things that bring about a depreciation of the physical condition; not that I know of. This is set aside to take care of the obsolescence, that all comes in, that is all under the term "Obsolescence and Inadequacy."

"Q. And that in order is added to physical deterioration when you go to try to determine what that reserve should be, or the annual annuity that makes up that reserve, you consider first, the deterioration in the physical plant, that is how to deteriorate from new down to a certain per cent condition on account of rust, wear and decay, things like that?"

"A. Mr. Howard, don't confuse —"

"Q. (Interrupting.) I am not confused at all about it."

"A. (Interrupting.) Wait."

"Q. (Continuing:) I am not confused at all about it. I am just trying to get your idea, I know exactly that you set up a 2826 definite and certain thing as per cent condition?"

"A. Yes sir."

It is true that there is wear and decay that will bring it down to a certain physical condition; I know that is going to happen.

I set aside a depreciation reserve to keep that property at 100 cents on the dollar, that is what I set it aside for. Obsolescence and inadequacy are the things that are going to combine or operate to prevent it remaining at 100 per cent on the dollar; rust, rot and decay.

"Q. Yes sir, then you combine the two things there, in setting up your depreciation reserve, you add one thing to the other, and combine the two and aim to take care of those elements?"

"A. I aim to keep at at 100 per cent."

"Q. 100 per cent of the value then?"

"A. But I can't do it continually."

"Q. Oh, I understand you can't, you can't do it continually be-

cause you put a wire up here on these poles and it starts to wearing out and rusting out, you don't take that away, you don't repair it until necessary, you don't replace it until it becomes necessary, but if a string of wire out there becomes inadequate, you have to go into the ground with it, you don't absolutely make that change until it is necessary, but on the matter of percentages, as the years go on, all that loss is accruing from all these causes, isn't it, and  
2827 its past experience shows that it accrues and accumulates with something like regularity?"

"A. We are setting aside our depreciation reserve to take care of it."

But then we must not confuse condition of the property at the present time with the amount of depreciation necessary to set aside, to take care of the property; we are not confusing that at all.

"Q. We are taking care of all these things, we are taking care of the things that reduce this warehouse for instance from \$300.00 to \$210.00."

"A. That's the condition."

"Q. Yes, that is the condition."

"A. Now, let me explain that just a minute."

"Q. Yes."

"A. That is the condition that the warehouse is according to my judgment at the present time."

"Q. Yes."

"A. But I am going to have to set aside enough in my depreciation reserve fund to take care of that warehouse in the sum of \$300.00."

"Q. Surely, you are going to have to take care—set aside—"

"A. (Interrupting.) The condition has nothing to do—the per cent condition has nothing to do with the amount that I am going to set aside."

"Q. It has this to do, though, it is regularly set aside to take care and provide for that thing that wears your plant out,  
2828 doesn't it, to keep your plant up to the 100% value?"

"A. Let me answer *this that* way, if I were going to do what you asked me to do, I wouldn't set it aside on the \$300, but I would set it aside to take care of the \$20."

"Q. But you don't change your annuity?"

"A. I am taking care of my property dollar for dollar."

"Q. That is, it could be done that way but assuming that your plant decreases 10% the first year, then the next year you don't apply your percentage to the 90% but you apply it to the 100%?"

"A. I can give you an illustration that might help you".

"Q. I am not looking for help, I am looking to get the correct view before this Master."

"A. As a concrete example, Mr. Howard, I testified in the Federal Court in the case of Western Union Telegraph Company vs. M. E. Trapp, the State Auditor of Oklahoma, as to the value of the Western Union Telegraph Company's property. That was in 1909, and that same question came up, of a line that was 10 miles long that



would last ten years, that the first year it had depreciated 10%, should the rate for the message be reduced from ten cents to 9 cents."

"Q. Well, now, I am not contending that at all. That is where you don't get my idea. I am contending, you set up an annuity, that when it is set up from experience, and from the best knowledge you can get, you figure that you have to apply the annuity

2829 each year to the original value in order to get the proper fund at the end of the time to take care of the plant, to take care of the investment. Now, the only thing that I am talking about, I am getting down to depreciation, when you come to apply your depreciation, when you go to value the property, of course you say this is cost, but what we are interested in finally is value, the cost, or how to get it, its value. Now, we'll take this warehouse for instance, it is simple and only a small thing, you have depreciated here?"

"A. 70% condition."

"Q. Yes, 70% condition, valued at \$210.00."

"A. Yes sir."

\* \* \* \* \*

"Q. Well, why not, if value is the thing we want and your warehouse that is in only 70% physical condition and thereby reduced to \$210.00 is reduced further in value by the fact that it is not worth half as much as it would be if it were more conveniently located, why don't you take that reduced value out of the plant before you go to apply the rate to it?"

"A. Mr. Howard, you are confusing that. I made a valuation of this plant——"

\* \* \* \* \*

"Q. Now, then, getting right back here's my view bout it, Mr. Player, and I want to see if it is not correct. I think you  
2830 will get to looking at this thing through the old way and that is the way to do it."

"A. No, sir, we are using absolutely modern, sound engineering principles."

"Q. Well, now let's see if they are sound. You know, a layman can get some grasp on these things. You have in trying to keep your property and your investment up to 100%, have set aside an annuity each year based upon the full investment cost, full investment price, investment value, you understand you are going to do that and going to disregard the depreciation principle each year. We are going to take the original investment all the way through and apply an annuity to it for the purpose of creating a certain thing, and you have already told us that the purpose you are trying to serve and the things that you are *deterioration* in physical condition plus obsolescence and inadequacy. Then you are setting aside a reserve for this very purpose. Then when you come to value this property to determine its value, why don't you deduct

both of these elements if they are both present in arriving at your net value?"

"A. I get your question. You want me to consider as to whether or not this warehouse is in a good location."

"Q. Yes, sir."

"A. And will serve its purpose."

"Q. Yes, sir."

"A. Three or four years from now just the same as it is doing now."

2831 "Q. No, I am assuming——"

"A. (Interrupting.) Now, wait a minute. In case it wouldn't, why I shouldn't include an element of inadequacy. That has not been taken into consideration and is not the correct method to apply in an appraisal of this character."

"Mr. D. A. Frank (interposing): It doesn't exist."

"A. (continued). It doesn't exist. If the warehouse were not suitably located, the company would immediately locate its warehouse where it was suitable, where it would be most economical to maintain it and bring the material to it."

"Q. And when they did that and built a new warehouse, then all these elements would disappear, wouldn't they, not only the obsolescence or the inadequacy, but also the physical conditions, the deteriorated physical per cent condition."

"A. Oh, no; no, sir."

"Q. All right now. I just wanted to draw your attention to this thing to give it some thought notwithstanding it might not strike your technical mind as proper. When you go ahead to value this entire plant, take this telephone plant, for instance——"

"Mr. Duls: You are talking about "value" now; not "cost".

"Mr. Howard: Well, "value" is the thing we are after; you say we are not after "cost".

2832 "Mr. Duls: That's right."

"Q. You reproduce this telephone plant now, and you reproduce it new, out of the best material, you reproduce it exactly as it stands here, serving the public now. Then in order to get one element, one of the indications of value, you call it "cost less depreciation." Then after you get this plant reconstructed and reproduced exactly along the same lines, a good construction engineer comes along and absolutely convinces you that the conduits are not running where they should run in order to best serve the public, and to be more economical and get the best service out of them, that the plant is a manually operated plant, it being demonstrated that the automatic will be the thing to be installed from a proper economical standpoint, and you have got an inadequate and obsolete and back number plant, instead of a modern one, would you depreciate that plant any on account of its obsolescence——"

"Mr. D. A. Frank: Why, I object to the question because there is no foundation in this case for any such question. There is not any

evidence here whatever of inadequacy or obsolescence. On the contrary, all the evidence shows that the plant is up to date, in fine condition, and is the same character of plant that is used in the best cities of the United States today."

2833 "Mr. Howard: There is evidence in this record already upon the question of obsolescence and there will be more."

"Mr. D. A. Frank: There are some statements here by Counsel."

"Mr. Howard: No, sir."

"The Master: I will try to discriminate and not try to give any weight to improper testimony."

"Mr. Howard: Why, if it is improper, I guess Your Honor will disregard it."

"Q. Now, then, your method of reasoning will lead you right to that conclusion, won't it, Mr. Player, that once you get a plant which is reproduced just along the very same lines that this plant is reproduced and we'll assume further that after it is constructed or is constructed out of material that wasn't entirely new, and that it lacks 100% of being in physical condition, then to get the value of that plant reproduced new, you take off you say the physical——"

"A. (Interposing). Deterioration."

"Q. Deterioration. You take that off to get its value. Now, I am asking you why if the plant is not a modern plant but if built along proper engineering lines it would be more serviceable to the people, its conduits would be placed in proper shape, it would have the most modern equipment in it, why, you won't also depre-  
2834 ciate it on account of that inadequacy and obsolescence that's in it?"

"Mr. D. A. Frank: I don't see how the witness can answer a question of that kind."

"Mr. Howard: Well, he started to answer it. He must have a better vision than you have."

"The Master: Well, do the best you can on it, Mr. Player."

"A. I beg your pardon."

"The Master: Go ahead and answer it if you can"

"A. I don't believe I can answer it."

"Mr. Howard: He would have answered it if Mr. Frank hadn't said that he couldn't."

"Mr. D. A. Frank: In explanation of it, I will say this. I think I can shorten this conversation a little bit. Counsel is assuming a condition that is impossible, that is, if a man builds a plant the size of this plant in Houston and as soon as he gets it completed he has got a plant that is made out of poor material, poorly engineered, inadequate, obsolescent, about ready to fall down, and not placed at the right position. Now, whether or not he would take that into consideration in looking at it, if it were such a plant as that a man would be an idiot that wouldn't say that the plant was no account, a plant of that kind. But that isn't the kind of plant they  
2835 have got here. If his assumption had any basis of fact, no two reasonable minds would fail to agree on that proposition.

Why didn't he ask him to assume something that is within the line

of reason. I don't see how he can expect the witness to answer such a long question of that kind."

"Mr. Howard: Why, Mr. Player didn't ask for protestation at all until you told him he couldn't answer it. I assume that a fairly well educated man can grasp a fairly involved question."

"Mr. D. A. Frank: Well, a man would have to have a crazy-quilt mind to grasp some of yours."

"Q. What do you mean by this statement in your report on page 1, "Experience has shown that to duplicate an installation of this character, (that is, Central Office Equipment,) it would cost, irrespective of advanced prices, a great deal larger sum than was originally paid. This is caused by certain types of equipment used having become obsolete, which would require the factory constructing special machinery to reproduce the equipment, such as relays, coils, keys, etc." Now, you are assuming here, yourself, I believe, that there is a great deal of obsolete equipment in this plant. It is there, you can't laugh it out."

"Mr. D. A. Frank: You just simply can't understand the statement, that is all."

"A. Mr. Howard, I mean just this by that, that you can inventory and large installation in the country any place. You 2836 will find that improvement has been made in certain classes of equipment, that the manufacturer has changed his machinery to conform to the improvement. While the equipment in use is just as efficient for its particular purpose, used in a particular circuit, used for a proper thing, as the new equipment would be, at the same time, you would have to reconstruct new machinery in order to reproduce the same equipment, and therefore it would cost a great deal more money, it would cost this money, more money today by far to have the Western Electric Company reproduce some of its equipment here than it would be worth while paying."

"Q. That is just what I thought, that is just what I thought, and I think there is a lot in this plant. Now, then, they have got a lot of this obsolete——"

"A. (Interrupting). No sir."

"Q. No sir, it is not obsolete in the sense that you have absolutely junked it, but an accruing obsolescence there, isn't there?"

"A. No sir, not in the sense that you mean it, not in the sense that you mean it. You mean in the way of becoming useless?"

There is nothing of that sort in this plant; not becoming less useful, not for the purpose for which it is being used.

2837 As an engineer if I were going to reproduce that plant just from economical principles I would put in the newest equipment that the market would afford, and doing that you would vary from the model that we have here in this, that there's some types of equipment that are no longer made that give just as good service as those that are made, but it has been found more economical to improve them. It has not been found that you could put in better equipment for less money than some of the equipment that they

have got here now. I did not say better equipment; I did not say that. Here's the point, in this state of high prices where everybody is trying to conserve, make efficient materials and equipment as it is possible to do under prevailing prices, the manufacturers of all classes of equipment, not only of telephone, but of electrical, even down to the automobile, are making it as good as they can at the least expense possible, so that it will render the service for which it is intended, and that is where all this improvement comes in. I am trying to be honest.

No sir, I will not admit that there are certain parts of this plant that are not as modern as they should be, and if they were reconstructed now they could be eliminated and should be eliminated with regard to proper engineering,—I won't admit that. I absolutely contend that this plant is constructed and there is now in it no element of obsolescence or inadequacy as it stands here today; you are correct about that. This is one of the most economically constructed, best constructed plants in the United States.

2838 “Q. Mr. Player, you take in a city where the population seems to have a tendency out in one direction where the residence district and thickly populated district seems to be tending in a certain direction, and even the business portion seemed to be 15 years ago, seemed to have centered around a certain point, and it develops that very thickly populated growing additions have been laid out in just the opposite direction from what was then in mind, and it develops that the growth of the business district has changed quite radically from what was in mind would you say that that wouldn't affect the original engineering of the plant, I mean in regard to its adequacy, not in regard to the physical engineering at the time the plant was put in in regard to it having been located in the right place for the service today?”

“A. Mr. Howard, these things frequently occur that mistakes are made in fundamental plans in engineering, in all lines of business, as to getting a wrong building some place for a particular purpose. Now, I want to cite you a concrete illustration of that.”

2839 In the city of St. Louis when we made the appraisal of that plant there, we eliminated one of the finest buildings that the company had. I want to take this up in detail because it is just in line with what you are asking. The Euclid Exchange Building in St. Louis was built at the cost of—I wanted to get the exact location of it if I could. Well, anyhow this building at a cost of about \$45,000.00 to the company was placed in a location where it was thought that the town was going to grow and become thickly populated in a residence district. Before they could get all of the equipment installed in that building, the growth of the town proved conclusively that the building was in the wrong place and that building had to be abandoned absolutely. That illustrates what you said, not through any particular misjudgment or anything of that sort, but conditions just happened that way.

No, I am not assuming that everything that you are assuming is in a spirit of antagonism and of trying to combat my theory; I am

trying to give you, Mr. Howard, just a clear understandable version of this matter as possible.

"Q. That is what I say. I am admitting that the plant was perfect as originally laid out, that is just what I started out with, but owing to the conditions changing, that can render the services of a plant less valuable, less useful, can't it?"

"A. All right, I admit that that is true, but say that there 2840 is no such instance in Houston."

I absolutely say there is no such in Houston. I know where the Montrose Addition to Houston is, the most fashionable and desirable addition; I know about where it is. I have no idea how old that addition is. I think two or three years, something like that.

"Q. Well, it is very new. Did you know that the residence four or five or six years ago everybody thought the residence district was tending to eastward here from Main Street?"

"A. Tell me what is out in that direction,—Highland Park?"

"Q. No, Highland Park is way over there. Highland Park is rather—no, Highland Park is way over there, this way. Highland Park is in rather—

"A. (Interrupting.) I just wanted to get my bearings, that's all."

"Q. Now, the residence district, the labor or workingman's district of Houston lies off in this direction, to the north and to the northwest and around down towards the channel to the northeast, and the residence district is known as the south side."

"A. Are you speaking of this first as along Harrisburg Boulevard, along there?"

"Q. The Harrisburg Boulevard, that is rather a workingman's section, pretty thickly grown up."

"A. I have been all through there."

"Q. Then that is comparatively newly grown up too, it is 2841 building down there rather considerably and the City is branching out in a good many ways that wasn't anticipated five or six years ago. Now, do those things affect in any way the plant as originally laid out?"

"A. No sir."

"Q. Why not?"

"A. Except in this, that the Company is going to have to build a new building out in the Harrisburg Addition. They are going to have to make some provision for extension possibly building out in the Montrose Addition some place, in order to take care of the increased patronage."

"Q. Well, I don't know enough about this from an engineering standpoint, but as I get it in a general way, where there is a very considerable traffic and where it can be done, you carry the traffic in underground conduits, don't you?"

"A. Yes, sir."

"Q. Now, I suppose—Is there anything you might call a "trunk" conduit?"

"A. A what?"



"Q. A "trunk conduit," a large conduit that leads off into any particular section and carries a great many wires to a certain point before it begins to branch off?"

"A. Yes sir, the main conduits branch off."

2842 "Q. The main conduits. Now, if the main conduit was laid with reference to the City building out here in the southeast part of town and it developed that it really built in the southwestern part of town, what effect would that have upon the trunk conduit?"

"A. None at all."

"Q. Wouldn't that have any effect at all?"

"A. No sir, because those duties—Now, I am saying that in this instance, I have talked to a great many people in Houston, real estate men and others, and the growth of your city is constant, it is not limited to any one particular part. It is spreading all over. You have facilities here that no other city in the State of Texas has. You have got the best location. I am going to get into that later on."

"Q. They have gone over it two or three times. We are satisfied about it."

"A. But the engineering, the fundamental plans of this plant are just as perfect as any plant I ever saw. They are taking care——"

"Q. (Interrupting.) Well, now tested by inadequacy and obsolescence, is there any plant in 100 per cent condition?"

"A. I never saw one."

"Q. You never saw one. There is then some inadequacy and some obsolescence inherent in this plant here, is there not, there is some, at least?"

"A. Well, you can call it by any name you please, but I wouldn't say there is any obsolescence or any inadequacy that hadn't been taken care of by the company. I would say that there is a  
2843 condition per cent, as to the property prevailing that would make the property as a whole in about 88.07 per cent present condition as an operating property, but as far as obsolescence or inadequacy is concerned, there is nothing there."

"Q. Well, we'll pass from that. Have you submitted this figure here of five and a half mills——"

"A. (Interrupting.) I haven't submitted anything yet."

"Q. You have just submitted an appraisal of these properties."

"A. Yes sir. I haven't talked about any figure."

"Q. You were asked to make an appraisal of the plant?"

"A. In the way that——"

"Q. (Interrupting.) In that appraisal, you don't call the values off?"

"A. No sir."

"Q. What relation has it to value?"

"A. Just a measure of what might be considered, taken into consideration, measure up as to what the value might be."

Mr. D. A. Frank: He hasn't got through yet, Mr. Howard, with his testimony.

"Q. But in depreciating it, you have considered only the physical per cent condition and not obsolescence and inadequacy?"

"A. No sir, I have not taken into consideration any obsolescence or inadequacy."

2844 Reirect examination.

Questions by Mr. J. D. Frank:

If my judgment can be relied upon, I have not included in my appraisal any telephone property in the City of Houston which is not used or useful in the telephone business; I just took what was used or useful to the City of Houston.

In regard to — Counsel questioned me with reference to substitutions, if I were building a new plant here, if I did make substitutions, because of the change in the manufactured articles, a substituted plant with all of the latest manufactured articles, it is a fact that within a few months time that some of those articles would be off of the market so far as the actual manufacture of the articles is concerned. I might say this, that in the transmission of messages over our lines in France, the lines of the Army, we used equipment that had not been put into use in the United States simply because it had reached a state of improvement where it was necessary that we have the most modern improvement in the transmission circuits, and they shipped them right to France to us, so that we could use them there and they were not put in service here. The Bell Telephone Company did not ship them to us; they were shipped by the Western Electric Company.

With reference to the efficiency of those articles which are no longer manufactured, that does not have any effect on their efficiency because they are manufacturing them in a little different manner, nor does that make them obsolescent so far as the use of those articles are concerned; I testified to the same thing saying they did not in answer to Mr. Howard's question.

2845 I have ridden in the elevators over in the Preston building. I have not been riding in them every day since I have been down here; I have only been in them twice this week. When I was down here before I was in them every day. I have inspected them. If the Otis Elevator Company has made the statement that they could not give you a correct estimate of the reproduction cost new of those particular elevators, because that particular class of elevators is no longer manufactured, that does not affect the efficiency of those elevators in that building; they perform the services for which they were intended to all purposes now. That does not make them obsolescent, nor does that render their per cent condition any lower than it would be if they were still being manufactured. As a matter of fact, it does not have anything to do with the per cent condition.

If I started in to reproduce this plant here in the manner mentioned by Mr. Howard and made substitutions of various items of material, here, there and yonder, when I got through I would not have an estimated cost of reproducing the property which exists

in Houston today. I might just as well have somebody send me a map of the City of Houston and sit down in my office in St. Louis and draw out the conduit runs and the location of buildings, and then satisfy my own mind as to the kind of equipment I am going to put in them as to say yes to such a question as that. What I was trying to do was to estimate the cost of reproducing the property that was here; certainly, that is my idea.

The Annual Reserve for Replacements is to take care of storms, fires, etc., among other things.

The telephone business is a hazardous business. You are  
2846 liable to lose a part of it through conditions of the elements, fires, or anything of that sort at any time. I know that some of these buildings which I had in my appraisal are likely to burn down; those things do occur in connection with large plants all of the time. I do not take anything off of the per cent condition of the property on account of the fact that those things have occurred in large plants of this size and that certain items of this kind will occur in this plant; the proposition of condition per cent and what amount of money it is necessary to set aside to keep the dollar worth 100 cents, are two different things entirely. You are talking about two different things. You cannot mix oil and water and that is what you are trying to do in this, by asking a question of that sort.

Land is the first item of property in my final summary. I did not appraise the land. I secured from four real estate dealers their figure and their best judgment as to what the land was worth, then, in order to be consistent with my other methods of procedure I took the average figure of the four real estate men. Those real estate men were Mr. Hannah, Mr. Wilson, Mr. Mills, and the Sam Realty Company, all of Houston, Texas. I got from them an estimate of the market value of the various pieces of land and added together their four estimates and divided it by four and took that as the value of the land. I got \$178,500.00 for the land in that manner; the detail of that is shown on page 2 of the Appraisal. I have not seen any of Mr. Hoag's figures at all, Mr. Frank, and I do not know what his figures are. The details of that appear on page 2. I included as the valuation of the lots upon which the Preston building is located \$167,600.00; the lot on which the Hadley Exchange building is located, \$5,000.00; the lot on  
which the Taylor building is located, \$2,700.00; the property  
2847 in Fullerton Place which has been purchased for a new exchange site, \$3,200.00, the lot is for the proposed Harrisburg Exchange, a total of \$178,500.00.

Taking up the item of Buildings, I have included in the appraisal as the cost of reproducing these buildings, \$463,131.00. That is the reproduction cost new. The reproduction cost new less depreciation is \$395,814.00; the detail of that will be found on pages 3, 4, and 5.

On the Preston building I placed a valuation of \$346,092.00 new; \$311,483.00 cost less depreciation. I found that building to be in 90% condition. The Hadley Exchange will cost new \$83,142.00; cost less depreciation, \$74,828.00. The Taylor Building \$31,547.00,

cost new less depreciation, \$28,327.00. The warehouse located at 3213 Texas Avenue, cost new \$300.00; cost less depreciation \$210.00. The garage located on the Preston lot, which is used for housing vehicles and tools, etc. \$1,400.00 cost new, cost less depreciation \$1,120.00. A little storehouse located on the rear of the Taylor Exchange lot, cost new \$650.00; cost less depreciation, \$552.00, giving me a total cost new of \$463,131.00, and the cost less depreciation of \$395,814.00.

In ascertaining the cost of these buildings I did this, I have estimated the cost of the buildings owned by this company, that is, the Southwestern System in many places in Oklahoma and Missouri. The buildings are built under general standard specifications and do not vary to any degree one from the other. The same class of steel, concrete reinforcement and other materials are used in all of the buildings. They are built expressly for telephone purposes, the floors are thicker and heavier, as are the foundations and side walls than an average building of the same size would be.

2848 This is due largely to the engineering basic principles for building a building or any part of a telephone plant. The buildings are put up to have additional stories added to them, that is, the foundations are built heavier than they naturally would be for a two or three story building, they are built to take four, five or six stories, like this Preston Exchange building; the building is constructed for five additional stories, I think it is, that is, this building has been constructed in such a manner, that whenever it is necessary to do so they can add four stories on to the building, with no need to reinforce the foundation or the lower side walls or anything of that sort. It is already there for the purpose. In my experience in estimating the cost of these buildings, I have followed the same principle in Houston as I did in St. Louis, Oklahoma, Springfield, Mo., Fulton, Marshall, and other places, of estimating the cost per cubic foot, the cubical contents of the building. I have the price per cubic foot and that varies; on the Preston Exchange building I use a price of 55½ cents per cubic foot. That is on page 3, and I show that in connection with each building, the price per cubic foot. The Hadley Exchange, the Hadley building, 44½ cents, the Taylor building, 43 cents. That procedure or method of estimating does not vary or differ from the methods used by other engineers in the same class of work.

The figures used by me included architect fees, they included the cost of the building erected as it is. I would not undertake to get those buildings built on the prices I have used at the present time; I don't think so.

The figure of the central office equipment I have here is \$975,668, cost new; \$882,283.00 cost less depreciation. Unfortunately, 2849 I have to admit an incorrect wording in this item; Roman numeral I, right after the letter of transmittal, under the heading of "Central Office Equipment." That is the last paragraph under Roman numeral I. I say here, "the figures used by the Company in its appraisal have been used by us." That is not correct. I did all of this work and in writing this letter, I was a

little hurried and I should have said that the figures used by us were supplied by the company. Now, the same is true on page 6; it should be that the figures used were supplied by the company.

In the statement down there at the bottom in the last sentence in that paragraph under Roman numeral I, I say: "The company used an average price of five years in this instance, and we in making our check find the prices used to be conservative;" the estimate which I used was based on the five year average prices. I asked the Engineering Department of the Southwestern System for the average five year cost of the Central Office Equipment. I did that for several reason-. This is a big plant and the Central Office Equipment is a good big part of it. Of course, I have checked the records—well, I did check the record of all the equipment installed in the St. Louis Plant, that is the voucher cost. I did the same thing relative to Springfield, Missouri, where the cost of that Central Office Equipment was \$86,000.00, and in other smaller plants owned and operated by this company, and I have never found yet any discrepancy as to the cost of the Central Office equipment for the simple reason  
2850 that they simply go to the bills rendered by the Western Electric Company for the cost of the installation. I felt reasonably sure that they would have no object or idea of giving me any inflated cost or the wrong cost in this instance; I had no hesitancy in asking for it.

When I got those prices I made a check of them. I did this; I checked them in comparison with other appraisals that I had made of the same class of equipment, and found them to be conservative and correct and so I adopted them. This same procedure has been accepted by both the Oklahoma and Missouri Commissions and by the courts after that, in cases of those commissions. The next item is No. 4, Subscribers' Equipment; the cost new is estimated at \$357,087.00; the cost less depreciation at \$308,732.00. I show the details as to that on pages 10 and 11 of my appraisal. Under this account, I might say that, so as there will not be any confusion or confused ideas, that I have used under these various captions, Account No. 18-C, for instance; this is all in accordance with the Classification of accounts set up by the Interstate Commerce Commission, prescribing how the company shall keep their books under various account numbers like under subscribers' equipment, station apparatus, would be 18-C, their account number for aerial cable is 2-C, their account number for aerial wire is 14-C and so on, and I have just *just* for comparison purpose-, have used account numbers conforming to the classification of accounts, construction accounts.

I am familiar with the rules of the Interstate Commerce Commission with reference to the system of accounting for the  
2851 telephone companies. I will say this, that when the Interstate Commerce Commission issued their classification of accounts in January, 1913, I was the engineer for the Oklahoma Commission, and recommended to that Commission that that classification be adopted, be used by all telephone companies in the State, where it could apply, and that Commission immediately issued an order prescribing that classification of accounts for Telephone Com-

panies. The Missouri Public Service Commission have done the same thing and have that also. It is compulsory on telephone companies throughout the United States. There is a penalty attached provided for in the classification of accounts in the law that unless the books of the Company are kept in accordance with that classification that the company will be penalized. They have to keep all of their accounts in their local exchanges in accordance with that system of accounting.

On this station equipment or subscribers' equipment, as I designate it, it so happened that that differs greatly from central office equipment in that the units are compact and small and prices are readily obtained on this class of equipment; I had the prices and could use the prices for this class of equipment that I had. Those were the prices of the Western Electric Company; these are Western Electric instruments and I could not apply the prices of the Kellogg instrument, or a Stromberg-Carlson, or a Dean instrument to the Western Electric instrument. Those are the same kind of instruments that are used in Oklahoma and Missouri; this type of instrument is used by the Bell Telephone system throughout the United States. It is not obsolescent, that is, for common battery equipment. In rural districts, where they have rural lines and  
2852 small magneto exchanges, something of that sort, you will frequently find Kellogg instruments in many places, Dean instruments with Kellogg switchboard in many places, and Stromberg-Carlson instruments on a Kellogg switch-board. In other words, for many years past, a great many of the companies have not been limited to buying Western electric equipment. No, you do not find that in some of the larger equipments, as we say, in the telephone business, there is no Duke's mixture in the exchanges. It is all a standard type of equipment and it is found economical to have a standard type of equipment. I might explain that this way: you have your trouble men, taking it from the operating room, you have your operators, then in the Plant department, you have your installers, your trouble men, your wire chiefs, and each and every one of those men know that class of equipment, know just exactly how to handle it, if it gets into trouble, what to do for it, and if you had two or three different kinds of instruments scattered around, then it would necessitate having two or three different kinds of supplies on hand to repair those particular instruments, and a man might know just exactly where to look for the trouble of a certain kind on a Western electric instrument, or owing to the change of a spring or something of that sort in a Dean or a Stromberg instrument, he would be puzzled, take him longer to do it. In other words, standardization throughout is the most economical procedure, or basis for the company to work on, and that is what they do in these larger plants.

If a man goes from one exchange, say, a repairman or a lineman goes from one exchange to another, by reason of the fact that  
2853 the equipment is standard he can work as well in one town as he can in another and not only that, but in repairing instruments, or lines, or things of that sort, he carries one standard



class of equipment with him, repair parts, etc. He can do anything connected with that.

In connection with the various rate cases that go before these Commissions, I have had and the Commissions in some of the cases in which I participated had occasion to investigate the prices of the Western Electric Company with reference to whether or not they were high or low, or how they compared with the other companies; we have done that, in fact, I personally have gone through the Western Electric plant at Hawthorne, Ill. I have also gone through the Automatic Electric Company in Chicago, and the Stromberg-Carlson manufacturing plant there and I can say frankly that the prices of the Western Electric Company are no greater than they are of these other companies for the same class and character of equipment. As a matter of fact, the prices are a little bit lower, due to economical reasons more than anything else. Their facilities are so great of supplying the demand, they can turn the apparatus out more readily, thereby causing the Company that wishes to buy it to be served long before they can secure a similar type of equipment from some of the other companies or manufacturers. Not that the prices are any lower, but in the interim that they would have to wait for this equipment they are receiving revenue from apparatus installed where they would still be waiting for it from the smaller manufacturers.

The Western Electric Company is the largest manufacturer 2854 in the United States, that is, of telephone equipment and has the largest facilities. I would not say that it is the best. I would say that it is as good as can be had. Frankly, Mr. Frank, I believe that there is some classes of equipment made that are just about as good, in fact, the Stromberg and Kellogg and Western Electric are just about on a par, but not on everything; some things they are better on, other things they are not quite as good. I believe it is generally conceded that on a magneto telephone, the Kellogg Company makes a better telephone than the Western Electric, that is, throughout the independent field,—conceded by the independents.

I have had occasion, I guess, to examine vouchers and bills sold by the Western Electric to the Bell, aggregating Ten Millions of Dollars worth of material. I have investigated the prices of some of the materials which the Western Electric Company has sold to some of these independent companies.

In making those investigations I never found an instance in which the Western Electric Company had charged the Bell Telephone Company more than it had charged an independent company for the same class of equipment, on the other hand, I have not found where they charged the independent company any more than they charged the Bell. I found the prices the same, I can cite you to instances of that, the installation of the No. 1 switchboard, the same as you have, practically the same as you have here, in Columbia, Mo., the installation of the No. 1 switchboard in Joplin, Mo., which is as large as any individual board you have here, the price 2855 is just exactly the same.

On this subscriber's equipment, I took the five year average price on that and applied it to the quantity of material that I found

in this plant just in the same manner that I have always done. The cost new of that particular item of property is \$357,087.00, and the reproduction cost new less depreciation is \$308,732.00. Now, under this heading comes several minor accounts, such as the station installation, the private branch exchanges, the booths and special fittings. I thought I had a summary of that, but I have not, but the aggregate is that figure of \$357,087.00. Subscribers' stations alone, that is the desk telephones and the wall telephones used by the company including pay stations, are \$147,668.00, the cost new; \$125,188.00 cost less depreciation. That is on page 10.

On page 11 I have Station Installations, which is installing the subscribers' telephone in place, and I have figured out the reproduction cost new and then the reproduction cost new less depreciation.

Page 12 is a part of it, that is the "Exchange Interior Block Wires," that is under account 48-C, that is \$1,772.00 cost new, and \$1,506.00 cost less depreciation.

A block wire is the wire that is run along the buildings and in the block, within the block from one terminal head to the subscribers' stations.

2856 I do not continue that on page 13, that comes into a different account, that is "Aerial Wire drops." That comes under the heading of the "Distributing System."

Cross-examination.

Questions by Mr. Howard:

There is no concern or manufacturer of this telephone equipment that compares in magnitude to the Western Electric. The other firm that I said is a large firm is the Kellogg Switchboard and Supply Company of Chicago. They manufacture mostly equipment for small exchanges. Well, they make large installations also. They build common battery switch-boards of large type. I don't know personally of a large installation, I can't recall it right now, that is, that is in service at this date. The first switchboard that the Kinloch Telephone Co. had in St. Louis was a Kellogg installation. That was a great deal larger than all of the combined switch-boards in Houston; it was a big type of board. That is out of date now and has been destroyed years ago. I do not know of any large board that they have installed now, that is, the Kellogg. Another one is the Stromberg-Carlson Manufacturing Co. It is not larger than the Kellogg in magnitude, I think it is about the same sized concern. They manufacture switchboards and instruments. The St. Louis Exchange of the Kinloch Telephone Company is operating Stromberg-Carlson equipment. It is the largest one unit switch-  
2857 board in the world today, and that was installed, let me think, about 10 or 11 years ago. The Kinloch Telephone Co. uses that. The Kinloch Co. has about 40,000 subscribers in the City of St. Louis and operates elsewhere. I was just going to say, now that I recall it, the Delmar Exchange and the St. Clair exchanges of the Kinloch Telephone Co. which are large exchanges, larger than either Taylor or Hadley, are Kellogg equipment. I believe the East St.

Louis Exchange is also Kellogg equipment. That is an independent company, that is all the Kinloch that I am naming now.

In St. Louis they have two telephone companies; the Kinloch and the Southwestern Bell Telegraph & Telephone Co. The Kinloch is about the largest independent company that I know of. The Keystone in Philadelphia may be about the same size, but I don't believe it is quite as large as the Kinloch. They are about, I think they are capitalized at Ten Millions.

I do not know who manufactures the equipment for the Keystone, but I would hazard a guess that it is Kellogg equipment because I know the Sales Manager that used to be with Kellogg very well, and I think that he is interested in that company.

I would not call these other manufacturing companies very small as compared with the Western Electric. I will tell you another installation that the Kellogg people made and one very large installation was Los Angeles, California, and they installed a modern, common battery switch-board there, operated just as successfully as any other type of board, any other make, but it was replaced with

automatic. There are numerous ones all over the country, 2858 I can't just recall them to memory. It has been a long time since I had that question put. Neither the Kinloch nor the others that I know of of those concerns are engaged now in the manufacture of any large equipment.

Redirect examination.

Questions by Mr. J. D. Frank:

I have not included in my Subscribers' Equipment in connection with the instruments any receivers, transmitters, or induction coils; never have done that. I did not include them because I know from the investigation of the records of the Bell Company for the last 11 years, that the Southwestern Telegraph & Telephone Company, the Bell Company don't own the transmitters and receivers and inductions coils. They rent those from or secure the use of those from the American Telephone & Telegraph Co., that is the common practice throughout the system. In connection with my Central Office equipment, page No. 9, I have a heading: "Other Equipment." The Central Office, "Other Equipment," is the equipment that consists of furniture and fixtures used in the operating room of operator's rest room, and dishes and cooking utensils used in the kitchens of the various exchanges. That is in connection with the rest rooms, cafeterias, and cloak rooms.

I have been familiar with a good many large telephone exchanges and know that it is customary to have those cafes and rest rooms, and so on in large exchanges; all of them have them. It 2859 is as much a part of the essential equipment of a modern exchange to have facilities for the operators that will make their surroundings pleasant, and give them as near home-like conditions as it is possible as it is to have the switchboard and wires.

I am familiar with the Home Company at Kansas City, the Home Company at Joplin, Missouri, the Kinloch Telephone of St. Louis,

and other large companies, and they have these facilities, and that particular item of property has been included in the appraisements of the various companies and it is perfectly proper. It is generally recognized by the Commissions that the Company's property includes that particular equipment; the items have never been questioned at all, it has been taken for granted that it is.

On page No. 1 of my summary the next item of material there is the distribution system, aerial. That covers pole lines, pole accessories, the aerial wire and aerial cable. Of course, in connection with the poles, we have only the poles in place. With the item of accessories we have the cross arms, and anchors and guys, pole sets and other equipment that goes to make up the pole line equipment. In the wire we have the copper and iron—bare-wire, whatever covered wire there is, the drop-wires; and on the cable we have the different sized cable, together with the terminals and other parts of the cable equipment that go to make up the cable parts.

2860 On that property I found the cost new, \$1,021,043.00, cost new less depreciation \$886,587.00.

With reference to the details of that particular part of the equipment, on page 20 is the beginning of the poles, and we will find the summary of the poles on page 23; pole accessories begin on page 24 and end on page 25. I might give the figures that go to make up this total amount as we go through. Going back to the poles, we have a cost, new, of \$302,085.00, cost less depreciation, \$225,425.00. Account 21-C Exchange Pole Line Accessories, cost new \$70,300.00, cost less depreciation \$59,338.00. Aerial wire—that is on page No. 25.

In aerial wire, we have cost new \$59,110.00, page 26; and cost less depreciation, \$49,261.00. Aerial cable, aerial exchange cable, Account 2-C, beginning on page 27, and the summary will be found on page No. 31, cost new \$589,548.00, cost less depreciation, \$522,563.00; gives us a total which is shown on the summary, see Final Summary page 1, of cost new \$1,021,043.00, cost less depreciation, \$826,587.00.

My next item on Final Summary on Page No. 1 is Distribution System-Underground. The distribution underground of the underground cable consists of the underground cable, both main and subsidiary house and block cable, and subsidiary cable. There are five different accounts under this item which are 14-C, 15-C, 24-C, 25-C, and 35-C. That is the classification set up by the Interstate Commerce Commission. That is the beginning of the underground system on page 39. Now, turn to page 41, that gives you the summary of the \$576,250.00, cost new; cost less depreciation, \$497,458.00.

2861 The next page 42, account 25-C, exchange underground cable, subsidiary and block, the summary on that will be found on page 26. It is a summary in itself. That cost new \$86,740.00, cost less depreciation \$74,078.00. The next item is 35-C, the summary of which will be found on page 48. This is house cable, total of \$8,589.00, cost new, \$7,646 cost less depreciation. Now, then, we will have to turn back to page 32, beginning with Account 14-C of Exchange underground conduit main. The sum-

mary of that will be found on page 35. I do not find the cost new of that particular piece of property, \$62,930.00; there is an error here some place; oh, the summary will be found on page 36, I made a mistake. I find that the cost new of that property \$459,686.00, and the cost less depreciation \$429,847.00 in Account 24-C, which is the exchange underground conduit subsidiary starting on page 37 and ending on page 38, the total of that account is \$48,557.00, cost new, \$42,285.00, cost less depreciation. That covers all the underground system making a total of \$1,179,822.00 cost new, and \$1,051,314.00 cost less depreciation. That gives me for my distribution system, aerial distribution system, underground, etc., the sum of \$4,175,-251.00 cost new, \$3,703,230.00, cost less depreciation.

I have on page 1, Item 8, overhead expenses 17%; that 17% is 17% of the physical plant as shown in the total, line 7, page 1. That represents the overhead expenses involved in the construction of this property, which are to be added to the cost of the material and the labor of placing them up there, although they were expenses that were incurred in connection with the construction of the property; those are expenses that could be allocated in the same percentage to each individual class of the plant, but it is the general practice to put them in as a lump sum in this manner. The detail of this 17% will be found on page 2, Roman numeral.

With reference to the item of my overhead expense, organization expense 2%, the matter of building a plant of any size at all, it does not necessarily apply to Houston or St. Louis or any other property, there has been the general supervision over the entire period, and this is carried on by the general offices of the company, and we have found through experience that 2% will be a reasonable allowance for that supervision. That is also sometime spoken of as "General Expense." Valuation engineers always include an item of that kind in their cost of starting the property; it is always included.

The next item is Omissions and Contingencies in the sum of 3%. There are so many items that can come in under the heading of omissions and contingencies, leaving out parts of the plant that you overlooked in taking your inventories and unforeseen expenses of various characters, various kinds. Omissions here is not designed to take care of omissions only; there are contingencies. Going into detail a little more and giving you an illustration of contingencies, showing why it is necessary to make an allowance of that kind, one item that could be illustrated in a way is the location of a plant, that afterwards develops is not exactly located suitably, or something of that sort. I do not know of any plant in Houston, through the inventory that we checked, that would come under that specific item, possibly, if we had taken and checked the whole inventory we would have found considerable of the plant that might have come under one item and if anyone else had checked it they would have likely found some more. Now, for instance, we have always found items of contingencies and omissions. Up at Springfield, Missouri, the company had left out of its inventory an

item of \$2,500.00 for a sewer that had been constructed which was found properly charged to omissions and contingencies. The reason I haven't such matters as sag in cable and wastage in materials in connection with my omissions, I suppose, I should have gone into all that. I thought it had been gone over, why all those things came into it. The cable ends that are not accounted for, there are two or three feet, sometimes as much as four feet in every cable spliced; there is a loss on wire in splicing; it may seem a small item, but in soldering joints, soldering expense, there is a good deal of time of the men doing the work that goes into the charge of the work, but you cannot very readily pick it up, and the fixing of mains and fixing cables and all of those kinds of things. I heard Mr. Topping's testimony in reference to example for omissions a few days ago. Those are the things that usually go to make up these omissions and contingencies, and those are the things which make it necessary to include an item of this kind to be correct.

If you are constructing any kind of conduit out here, and have to change the route on account of some unforeseen obstruction and so on, that, of course, does not appear when you are inventorying the property; you are liable to run into a sewer or gas main  
2864 and break it and have to fix it up or detour around it, or something of that sort; all those things come into this item.

The usual allowance on this made by engineers runs from 3% to 5%; I have taken 3 in order to be consistent with other appraisals I have made and to be conservative. In other words, in representing the Commission, I always practically took the lowest that I could and I have followed that same practice in this case, that is just exactly what I have done.

My next item on Overhead Expenses is liability and fire insurance; I have allowed 1% for that. That covers the liability of employees' insurance, fire insurance during the period of construction, which the contractor or builder would have to carry,—would be forced to carry. It is rather a conservative figure; I have seen it as high as 3% for this item.

My next item here is interest during construction, 6%. I include an item of that kind because interest during construction is allowed during the construction of any plant, and especially is it necessary to carry this item on account of the hazard connected with the telephone business. The telephone business is not like an ordinary business, there are many things that come up in connection with it that you do not find any place else, they are not even in the construction of electrical properties. I am not talking about liability insurance; I am talking about interest during construction. It is true that interest during construction would merely cover the interest you would be out for the money you have used during that period of construction, but there are other things in connection with it.

The reason that interest during construction is charged is  
2865 that you have got your money in there but are not getting any money for the use of it and you charge interest for the period of time during which you have got your investment and are receiving no return. I think the figure I have used here is lower



than you could get money at the present time. You should figure on a basis of about 3% upon it for a year and a half average time, that is, I have taken the average time of two years and counted 3%. I do not know any place where you can get 3% money, that is, at the present time you could not; I got this on a five year period and I am just staying consistent with the thing the whole way through, that is, trying to; I adopted the very lowest figure, I think, at which rate of interest I could get the money. During my twelve or fifteen years' experience I never heard of a telephone company that got any money at 3% in anything like small quantities. In large quantities it might have been borrowed at that rate several years ago, but not at the present time.

The next item is Engineering expense 5%. This is the usual and customary charge allowed in all appraisals for the item of Engineering; it covers the laying out of the plant, fundamental studies, all things that go in connection with the laying out, building and supervision during the building, etc., all engineering. I have got a total of 17% for all of my overhead expenses.

I have not attempted to work out the percentage after each item, that is for instance, on omissions and contingencies, I have stated that I would have omissions and contingencies, but have not  
2866 said that I would have omissions and contingencies amounting to nothing on land and  $\frac{1}{2}$  of 1% on buildings and 6 to 8% on Distributing Systems. I have taken it on the property as a whole and that is the way I have applied all of my overhead expenses absolutely. It would not make any difference in the final result if I worked out this overhead expense with reference to the percentage which should be allowed to each particular item of property in the plant; it would not affect the total result at all, it is just simply separated from the entire property here as a matter of convenience and for nothing else.

#### Cross-examination.

#### Questions by Mr. W. J. Howard:

"Q. Mr. Player, on the whole question of overheads you engineers have started things in telling me about the percentage customary allowed, in figuring these things out, why not take the direct method and apply the overhead, determining upon the items that carry overheads? Now, for instance, land, the overhead that that carries is negligible. Now, why not limit it to buildings and architect's fees, why not eliminate those items and apply your overhead to things that really require the carrying on of overhead expenses, instead of bringing in the items that do not?"

"A. As I said before, Mr. Howard, that could be done, but it would have no effect on the final results."

2867 They all carry it right straight through as a lump sum on the whole property; it can be segregated and really charged as to each class of plant, but as I stated before, it is just simply a matter of convenience to apply it this way and it is the usual and customary way of doing it.

"Q. Some of the items here, I think are very conservative, Mr. Player. But now, your final 17%, is that not a little in excess of what has been the customary lump percentage to give on overheads, hasn't 15% been a very usual figure and customary figure?"

"A. Well, Mr. Howard, I will say this, that up to three or four years ago there was only one charge in one item that would affect 15% at all."

That was not injuries and damages, but is interest during construction. In the Springfield case and in the St. Louis case, I used 15% overhead and only used 4% during construction. In the Marshall case I used 6%, the same as this, money prices had gone up and the interest rates had gone up.

With reference to my item of organization expenses 2%, which would be in excess of \$80,000; I haven't the chart of the organization of this company and it would be pretty hard to explain that to you without a chart showing the organization. That would not take the time of eight \$10,000.00 men for a period of over a year; there is the whole organization that would have some part in the building of this plant, you understand, there are the general officers, President, Vice-President, the Secretary, all of the employees, the Legal Department, the Plant Department, all come into or  
2868 under the General Expenses, and really the per cent of it figuring 2% is conservative.

"Q. Yes, I understand that is conservative, Mr. Powell just called my attention to the fact that it runs all through the plan. Still at the same time, it is an easy thing to run up money on paper, an easy thing to draw on paper,—and we have \$80,000.00,—that is a good deal of money.

"Mr. D. A. Frank: As compared with four or five million dollars, it is not very much, Mr. Howard."

"Mr. Howard: Yes, but now we are going to build a plant for four million dollars, and this \$80,000.00, as I understand it, is charged in here as expenses to just get ready to spend that \$4,000,000.00—to invest the \$4,000,000.00."

"A. No,—a part of the \$4,175,000.00 is being spent under the supervision of the general offices, all from the time they buy the land and start the construction, start the laying out of the plant—the plant starts with the general offices."

This organization expense that I am speaking of does not mean getting the organization, getting the company organized, and getting your organization men together that are going to look after this investment; not in your overhead charges you don't at all. These overhead charges I could have called "General Expenses," and it would have been applicable to have called it general expenses. I am not prepared to detail it in any way except in the general way I am accustomed to.

2869 Now, in these omissions and contingencies, when I start out in the manner in which I have done here to figure on reproducing the plant I estimate the materials necessary, I estimate the labor necessary, the number of men, and how long they are

going to work and all that sort of thing. In doing that I do not just adopt the theory that I am not going to be exactly accurate and that I have got it down to just within two or three days of the man labor I am going to employ, or within five or six of the man hours I am going to employ; I do not try to work it out that way at all. I told you this, Mr. Howard, the other day, that in estimating the reproduction cost new, I had the material and added to that the amount of labor necessary and I did not figure out that it was going to take a man thirty minutes to do this class of work or twenty minutes to do that class of work and sum up the whole thing; I do not go into all that detail. I did not arrive at how much material it was going to take of all the difference kinds; I had the inventory as to the amount of material, and then I built the labor price necessary to put that material into place. You can call that an estimate, but as I explained Friday, you will find the labor to bear a certain percentage to the material cost, and I get at it by that method. That might not lead you to employ too much labor or take care of some of these contingencies that might arise. If you had \$100.00 worth of material and applied 60% of that to labor, that is just that material and labor charged.

2870 "Q. But in figuring that labor to a man,—from experience you know that plants like this are never built without running into some difficulties,—and in figuring the labor and applying the per cent of labor charged to materials used, those contingencies are included largely in the amount of labor, aren't they?"

"A. No, Sir."

For instance, we go along the street and we see a cable spliced—we will say it is a 200-wire cable; we know that in making that splice about 400 feet of cable was lost, some solder lost, there was some paraffin lost, other little materials that go to make up the splice, understand, little paper sleeves, muslin, and things of that kind that you cannot see. There are practically no contingencies in labor.

"Q. Well, there are contingencies where you take more time—for instance, if a trench fell in—for instance, you have to throw out the dirt and brace the trench—those things are included, and you anticipate things like that when you apply this 6% for material and labor?"

"A. No, sir, not when I apply the labor. I am taking in anything of that sort in this 3% which I have allowed."

If we disregard this inventory entirely and are trying to find out what these people invested in this business here I don't know that we would go to the books to find out. To go about finding out what was invested in this plant here I would have to take an inventory of it. Let me say this, that I don't know when this plant was started in its construction; if it was started prior to January 1, 1913, I doubt very much if there are any records. I am not relying on any book figures as to the cost of this plant here.

2871 "Q. Well, if you spend money and keep books, it will show up in the books—all those expenditures would show?"

"A. If subsequent to December 31, 1913, I would say yes—be-

cause then the books were kept absolutely according to the rules laid down by the Interstate Commerce Commission."

"Q. Well, assume that—we will assume they have kept books, and they are experienced business men, they would keep books on it?"

"A. I wouldn't like to testify as to an assumption, Mr. Howard."

If they kept books of their expenditures, I don't know whether or not those omissions and contingencies that have been inherent in this plant would appear upon the books or not as expenditures. In valuing these properties, when I valued them for different commissions that I have represented I did not give any regard whatever to the books of the utilities. There are two separate divisions, there is the Auditing Department of this state Commission, as of every commission. What I mean to say is I am merely a specialist in inventorying and valuing property; that is right for this case.

"Q. You, in referring to these omissions and contingencies a while ago, you stated that during construction you would find that parts of the plant had not been located suitably. What did you mean by that, Mr. Player—as an illustration of a contingency, I think it was?"

"A. Well, sir——"

"Q. You just said that, I want to know what you mean by that?"

"A. I never—in all plants—I thought that had all been gone over."

2872 "Q. No—you just mentioned it a while ago?"

"A. In all plants there are some omissions that you are liable to find—discover."

"Q. You stated a while ago, Mr. Player, in discussing the matter of contingencies, that you frequently found that parts of a plant had not been suitably located. What do you mean by that expression?"

"A. There may be a building in the wrong location."

"Q. Or a pole, as Mr. Frank suggested?"

"A. There may be some manholes in the wrong location, underground conduit, and cables in connection with it."

"Q. Yes? Then what do you do in that case?"

"A. What do we do in that case?"

"Q. Yes, what do you do in that case, what do you do when you discover that, if you are constructing the plant—and you are constructing it now?"

"A. Why, I would make some notations of it, if we discovered it in taking the inventory——"

"Q. But we are not talking about taking inventories now, we are building a plant, understand—we are out building a plant, and it is in the course of construction, and you, as supervising engineer, have discovered that a part of the plant has not been suitably located. And having made that discovery, what would you do?"

"A. Well, Mr. Howard, you will admit that those overhead charges are in this inventory?"

"Q. Well, I am not speaking about that,——"

"A. Well, I am. We are making this allowance of 17%.

2873 "Q. Well, I am not talking about the 17%. You are analyzing your statement—awhile ago you made it, and I am just simply asking you what you meant by it, and you have told me that,—and now I am asking you as a supervising engineer, who has come here to tell us about building this plant, what you would do if you would find this plant not suitably located; if you can tell us, do so if you are so disposed, and are not disposed to keep anything back?"

"A. No, sir, I am not."

"Q. Then just answer the question in a few words and do not try to vary the question or try to evade it."

"A. No, sir."

"Q. Then, what would you do if you found parts of the plant not suitably located?"

"A. That would not have occurred if I had laid out the plant."

"Q. Well,—"

"A. But I am taking the inventory of this property—I am taking it—"

"Q. Well, we will let it go."

Mr. J. D. Frank: Let him answer it.

Mr. Howard: No, he is talking about an inventory—about taking inventory, and I didn't ask him anything about taking an inventory, and he has declined to answer the question, but has gone off discussing the inventory.

Mr. J. D. Frank: No, sir, he is not trying to evade the question. I did not understand your question just now, and I don't think the witness did. But he understands your question now, and I would like to have him answer.

2874 The Master: Go on and answer the question as asked, Mr. Player. Suppose you found a pole in an improper place?"

"A. Well, I cannot answer Mr. Howard in any other way than this, your Honor,—that I am building up a plant here on inventory, and I don't know what the actual changes are."

The Master: If you found a pole in the wrong place, and put it in the right place, what would you do as supervising engineer?

"A. Why, I would put it in the right place, of course—if there was anything of that sort."

"Q. Why, if you had told me that we would have been — of the question long ago. The next thing is liability and Fire Insurance. Now, of late, Mr. Player, that item is one that has taken the place of one that used to be formerly known as "Injuries and Damages," isn't it?"

"A. Yes, sir,—liability."

"Q. Have you ever figured out how it compares with the experience as shown resulting from injuries and damages, whether 1% is less than Injuries and Damages, ordinarily incurred in building these plants in the days before there was any Employers' Liability Insurance?"

"A. No. But in the various cases we have been over and deter-

mined, why, that has always been considered a conservative allowance."

"Q. One per cent?"

"A. Yea, sir."

The Master: Do you know what these insurance companies charge for the insurance against injuries under our Employers' Liability law?"

Mr. J. D. Frank: I think it runs something—taking the  
2875 Telephone property as a whole—something like \$3.60 on a \$100.00 pay roll.

Mr. Howard: That appears to me reasonable.

Mr. J. D. Frank: Just a minute. I think Mr. Hoag is familiar with that.

Mr. Hoag: It is \$3.20 for line men, repair men, and that class of employees—that is, for \$100.00 pay roll. It is 17 cents for \$100.00 pay roll for telephone operators; it is 10 cents for \$100.00 pay roll for clerical people, stenographers and such people.

Mr. Howard: Now, Mr. Hoag, I would like to ask whether that is a lesser amount or a greater amount than was formerly carried for Injuries and Damages?

Mr. Hoag: I have heard it stated that that rate of insurance means a less cost to the utilities than did the old way of handling it. Whether that is so or not I don't know.

The Master: It must be true, because the larger concerns in the State use it.

Mr. Howard: Yes, sir. I have no doubt it is true. It is a pretty big saving, I think.

"Q. Now, Mr. Player, so far as you know, no other engineer has ever revised this overhead charge on account of change in it occurring in the matter of injuries and damages, do you? Do you know whether there is any savings in overhead or any change—

"A. I don't know whether there has been any late revision or not, no sir.

I figure 5% for engineers' expense, and I know that in do-  
2876 ing it, it has been the customary thing to take 5%. I have

no idea as to how many engineers it will take to supervise the construction and have not attempted to analyze that.

Redirect examination.

Questions by Mr. J. D. Frank:

Under the discussion of "Omissions and Contingencies," or in connection with that, in working out the cost of material and labor I have proceeded on the theory that the construction of this plant would be done under ordinary circumstances. In building up my unit of costs for the material and for the labor, so far as those unit costs are concerned, I have not made any allowance for the fact that at times we would encounter certain obstructions and difficulties, which would run up those costs; that is why I have allowed this 3%, to cover those things. I know that those things always happen in



connection with the construction of any property of any magnitude.

Speaking of my duties in connection with the commission, when counsel asked me about the handling of books, and so on, and my statement that I disregarded the books there I meant in reference to making an audit of the books, revenue, expenses, etc. I am not an accountant, couldn't check the books to find out what the

2877 plant cost at all. Those commissions have accountants to look into those matters. You see in those commissions we have an Auditing Department and an Engineering Department, and very frequently the engineers make appraisals that check very closely with what the auditors find on the books, other times there is a wide difference between them. We have never paid any attention to what the auditors were doing, nor they to us.

Counsel has questioned me about this overhead expense of 1% for Liability and Fire Insurance; that also takes care of considerable expense in connection with the fire insurance, as well as our liability insurance; a contractor would naturally have to carry the insurance, both fire and liability, in order to protect himself. This amount is rather conservative. It is not limited to expenses resulting from accidents.

In connection with my statement of disregarding the books there, I meant just this: that where I take an inventory of a plant for the purpose of making an appraisal of it, of the difference parts of the plant, that I don't go to the books and make a comparison as to what the aerial distribution system cost, as shown by the books, and then adjust my figures to comply with that; I make an appraisal, I don't take anything from the books as to the cost of the property as it stands, that is, in an appraisal. If I were going to make an auditing, that would be a different thing.

2878 In making up the final estimate of the value of the property, that is, after I have completed my appraisal and am trying to determine the value of the plant, I do not consider the original cost and all of the other facts in connection with that; I am not determining any value at all in this appraisal; I am taking the inventory of the property and applying the unit cost as to that property in place, as to what it would cost to reproduce it in a certain period of time. In other words, I just took my inventory and applied my unit cost to it and got my physical figures that way in this appraisal, just the same way as I have been doing for all of these commissions for the last ten years.

On page 1 of my Summary, Item No. 10 "Right-of-way," for that item I have included \$26,743.00. That will appear on page 49 of the report. This item is estimated; no check was made of the cost of the right-of-way. The estimate is made on the basis of the number of stations installed at the rate of \$1.00 per station. That is the usual method of procedure without finding out through some source as to what was actually paid. From my experience it is rather low as compared with the actual cost of obtaining right-of-way. I have in years past done considerable right-of-way work, and I know very well that the charges for right-of-way in some instances are great and in others not so great; and I believe that this figure that I have used

here, and I have used it in other cases, is very conservative for an exchange plant. I know that it does cost money to secure this right-of-way.

Cross-examination.

Questions by Mr. W. J. Howard:

No, I did not get any of the items set up in the inventory direct from the books of the Company; I got those from Mr. Hoag, the engineer. I asked the Engineering Department for this cost, of course, simply because we had no way of estimating. I presume they have in charge the Right of Way. I did not ask the company for any cost of the right of way. I do not know what they paid or anything else for any right of way in this city, but I know that they do have right of way expenses. With reference as to whether I would or would not claim that it is an inventory for the right of way I would say this, I will answer your question and say No, with this explanation: That in my experience in the business that I believe that \$1.00 per station, I have used the same charge many times before, is a very conservative figure. I have seen set ups by the companies, while other charges for right of way would be two, three and four dollars a station actual cost. I do not know that this station here would be susceptible to determine accurately whether they have any right of way costs at all and don't know that I could ask the Engineer and that he would tell me nothing at all. I could have done that, but don't know whether he would have told me nothing. I set up the figures on what is considered sound principles

Redirect examination.

2880 Questions by Mr. J. D. Frank:

That is the way the commissions have always handled that proposition.

"Mr. Howard: Mr. Player, I ask why you are claiming this item of \$26,000.00 for right of way, we want to know—you are asking for return on value here, and we want to know."

"Mr. D. A. Frank: The judgment of this witness as to what it would cost —"

"Mr. J. D. Frank: A considerable part of that goes to the city of Houston in the nature of permits, about twenty-five cents for every pole set out here, fifty cents for every one hundred feet of trench that we dig."

"Mr. Howard: That is not right of way."

"Mr. D. A. Frank: Certainly it is right of way"

"Mr. J. D. Frank: It is changed to operating expenses."

The Interstate Commerce Commission makes provision with reference to the item of right of way. They treat that as a capital charge, that is why I have included it in this; you will find the account, number of account 9-C set up on page 49 here of my report, I have treated

this whole appraisal right in accordance with the Interstate Commerce Commission's classification of accounts, as set up. It is a capital charge.

2881 "Mr. Duls: You do not know the number of the account of the Interstate Commerce Commission's system, do you?"

"Mr. Player: Well, this is 9-C under the classification——"

"Mr. Duls: Well, here is a copy of it, right here on page 27 (indicating)."

"Mr. Player: This under the Interstate Commerce Commission's classification, account No. 207."

"Q. This is in connection with a heading entitled—just explanatory of fixed capital accounts, isn't it?"

"A. Yes, sir."

"Q. Now, will you read that section 207?"

"A. It is headed, "Right of way. This account should include the cost of all land and interests in land acquired for the location of telephone wires, cables, pole lines and conduits, salaries and expenses of right of way agents, expense of appraisals and of juries, commissions or arbitrators, real estate brokers, commissions, costs of plats, abstracts, notarial fees, examinations of titles, recording deeds, etc. This account should also include the first cost of acquiring the leaseholds of land for right of way, the terms of which are for more than one year each, whether acquired through direct lease, assignment or otherwise,——"

"Mr. Howard: Your honor, we don't think this all should go in."

2882 "Q. Will you finish reading that, Mr. Player?"

"A. In parenthesis "(but not including the rents paid periodically in consideration of rights obtained under such lease) if any such leasehold is acquired by assignment, the charge to this account must not exceed the amount actually paid therefor by the accounting company to the assignor."

2883 On page one of my final summary my next item after right of way is furniture and fixtures, local—that belongs to the local exchange; and furniture and fixtures, general office. They will all be found on page 50 of the report. These two figures are taken from the, were supplied me by the company, by the engineer of the company, Mr. Hoag. The local office cost new \$9,767.00. I found on inspection the condition account as eighty per cent, making the cost less depreciation \$7,814.00. The proportion of general office, furniture and fixtures, cost new \$7,412.00. I applied the same present condition, I looked at the furniture and fixtures in the general office at Dallas and found that that item was in the same condition as here in Houston. I found the cost less depreciation \$5,930.00. Those are the figures which I have carried into my final summary on page one.

## Cross-examination.

## Questions by Mr. Howard:

By fixtures as applied here I mean Window shades and electrical fixtures and brackets of different kinds, and coat hangers and all those kinds of things. The central office here would not be the only office; it would also include clerical offices. I had a look at that furniture up in Dallas also; they have a lot of it. I am undertaking to have the figure of \$7,412.00 represent the entire cost of it.

The company figured the entire cost of the central office equipment, of the office furniture and fixtures in their general offices and assigned this proportion to the Houston exchange. That was all estimated for the benefit of San Antonio, Dallas, Ft. Worth, Austin and Beaumont,—the system here in Texas; Galveston and Richmond and towns in Texas.

2884 “The share of Houston was \$7,000.00. That would make it, just considering these large towns, would put it up in the neighborhood of forty thousand dollars, wouldn't it, to say nothing about the little towns?”

“A. I have the company's figures on that, the detail of it.”

It is all in the inventory.

“Q. Now, that allocation—that is, allocation of expenses, and to have some supervision of this plant that was necessary, this plant stood by itself and ought to have its affairs administered here; it is figured that it cost seven thousand dollars extra to put in furniture to do that?”

“A. Well, you couldn't carry on the business of this particular plant by itself without having a general organization to supervise it, and I think that the cost would run up a great deal more than the company will show, irrespective of what they are, if they have to have an extra organization to run this big plant.”

They have got a general manager here now and have a local manager of the plant. I guess the company will put on witnesses to explain this allocating process.

## 2885 Redirect examination.

## Questions by Mr. J. D. Frank:

That is the property that is used by the employes who are working in connection with the Houston plant, as well as other plants of the company throughout the system and used in connection with the Houston plant.

The next item in my final summary is item No. 13, Tools and Teams. That will be found on page 51 of the report. Tools and Teams is a heading that I use in making my set up to designate a certain class of property. There were no teams used in connection with this exchange; it is all motor vehicles here, but that is the general designation as to this particular class of equipment, is tools and teams; under that is charged, well, the detail of that on page 51 is the explanation of it. Page 52 will show the detail of the vehicles.

I did not show the detail of tools, because the explanation on page 51 speaks for itself on that. 14.08 per cent of the tools of the state are assigned to Houston, in the sum of \$11,638.00, condition present 75%, cost less depreciation \$8,728.00.

The stable and garage equipment I obtained from Mr. Hoag the figures as shown under column C. N. on page 52, cost new, and checked each of those items, looked them over and found that the general condition is 80%, all except the last item on the page, which is a new engine, Ford engine, which is in perfect condition, one hundred per cent. Total of vehicles is \$9,870.89, and the cost 2886 less depreciation \$7,911.00.

Up to this time I have been estimating the cost of reproducing the physical parts of the plant; on line 14, on page 1, is the total, \$4,950,475.00 cost new; and cost less depreciation \$4,389,905.00. My next item down there is Stores and Supplies and will be found on page 51. I have treated that in connection with working capital, have just separated them there and made the computation for the two of them. In other words, it is customary to, or rather some engineers treat those items as one, that is, make working capital include stores and supplies, and some of them separate them. I separated these, as I have always done in my appraisals, for the purpose of showing or allocating to that specific item about the amount of stores and supplies that would be necessary to carry on the business of a plant of this kind; that would include what poles were necessary, and wire of various kinds, cross arms, in fact, all equipment other than the station or central office equipment, except small parts of central office equipment such as cords, lamps, batteries, —what are termed short lived parts of the plant. I included there as working capital the item 16, which would be \$137,814.00.

Working capital represents the amount of cash and supplies that should be included necessarily to carry this business on for a month or six weeks; the company has to meet monthly or semi-monthly wages of all descriptions, and run small accounts and unforeseen items of expense that would arise through a storm breaking down part of

2887 the plant and they would have to put in extra forces in order to get into shape, etc. It has been the usual practice of engineers in a great many cases to secure from the accountants the amount of revenues accruing for a period of one year, dividing that for the working capital. We have found, or I have found in going over a great many cases that one month's revenue is not sufficient to carry it, but that at least six weeks should be allocated to the working capital, and that is what I have done in this instance, I have taken approximately six weeks' revenue accruing from all sources of the local plant and allowed them as the working cash that the company should have on hand to take care of its expenses exclusive of supplies; if we were to include supplies, the amount would be \$162,814.00; separately it is \$137,814.00. That is for the purpose of taking care of the salaries of the six or seven hundred operators they have here and various employes that they have for running this plant here; it includes no part of the general expenses at all, it is purely local.

## Cross-examination.

## Questions by Mr. W. J. Howard:

"Q. Mr. Player, in figuring this matter up, working capital—and you say it has been a practice—have you engineers, in determining what is the proper amount to set up ever taken into consideration that there are different characters of utilities, such as—take the lighting, gas—the gas companies, water companies, they collect their bills at the end of the month—the street car company, 2888 for instance, collects its cash every day, sometimes in advance—and the telephone company, such companies as those collect a great part of their revenues in advance."

"Mr. D. A. Frank: They don't collect any of it in advance."

"A. Well, Mr. Howard, that is always considered in those things, but you will find this: That while the company may bill its subscriber at the beginning of the month, that a great per cent of those subscribers—and I have found in numerous cases where these bills were rendered this way—that is, at the beginning of the month—that from seventy-five to ninety per cent of the subscribers will not pay their bills until the end of the month or until the beginning of the succeeding month and only a small per cent of, about fifteen, we will say—will pay their bills before the tenth of the current month,—while the company must have some money to meet its requirements—it wouldn't make any difference whether the bills were paid in advance or not, they would have to have the cash to carry on their business, they would have to have their supplies on hand."

Supplies is not different from capital; the Interstate Commerce Commission sets it up; there are some corrections in the Interstate Commerce Commission's classification, you can carry it any way you please.

2889 If the company gets all of its revenues in advance, or any part of them in advance, it does not require a great deal less money as capital than one that does not collect until the end of the month; they know what their fixed expenses are approximately, and they must have what they estimate, as a reasonable man would, to take care of unforeseen expenses, and they kind of make a bet with themselves, so to speak, that they are going to collect all this money; they might lose, and they might have to secure money from other sources to pay their employees when their wages were due.

## Redirect examination.

## Questions by Mr. J. D. Frank:

Up to this time I have given you the statement of what it would cost to reproduce the physical part of the plant, and have also testified as to the working capital. The next item that I have is cost of establishing the business.

In connection with my appraisal of the physical property I have not included any increment of the cost of the property constituting



the physical part of the plant, situated and assembled and established plant, doing business and earning money; I have just included the physical property. That is why I set up this item No. 17 here as a separate item; cost of establishing the business. I have treated here my estimate of the cost of reproducing the business, in addition to the cost of reproducing the physical parts of the plant itself. What I have discussed heretofore with reference to the cost of reproducing were simply the bare bones of the plant.

As to what this cost of establishing the business is, what is included therein and how much I have allowed for it, and why I have allowed for it; in the building up of any business there are costs relative to the building up that can in no way be avoided, they are just as much a necessary part of the business and go into the cost of the property as any of the physical parts of the plant. In starting a business of the character of the Houston telephone exchange, we would have the preliminary costs, we would have to have the necessary expert advice to ascertain the amount of capital necessary, the approximate number of telephone stations that could be secured, the approximate or the rates to be charged for services rendered, then the approximate revenues to be received from whatever rates were charged; traveling expenses, railroad fares and hotel bills, stenographic work, printing and postage, all necessary to the preliminary work. Then, we would take the second step and have the legal expenses, the procuring of the charter and the capitalization expenses, charter fees, the filing and recording, the attorneys' organization and promotion fees, corporation records, secretary's books, and other records, procuring of a city franchise, with the attorneys' fees, the expense of the special election, and the incidentals, stationery, postage, printing, and stenographic work in connection with that special business. We would have the

cost of selling service as the third step.

If I were reproducing this plant here and the people were educated with respect to the need or desirability of telephone service, as to whether you would still have some expense in connection with selling service; I have not yet seen a telephone plant in any city or town, where there was competition, or whether there was not competition, but what the telephone company was put to great expense in selling its service; the matter of advertising—a company advertises continually, in towns where there is no competition they advertise—they advertise that the directory is going to close at a certain time, they advertise that they are ready to take care of certain parts of the city, or something of that sort, and there are a great many other things that enter into the cost of the selling of the service; you have your contract agents which necessitate expense, and your clerks, and all your postage and printing and stationery, incident to that subject.

Even though a certain number of subscribers would voluntarily come to you and apply for the service, you would still have expense in connection with the securing of that new business. I have seen instances where people living in towns where we had telephone service for years, didn't have telephones, the neighbors would ask

them, "well why don't you get a telephone?" "Well, we haven't thought about it," and you would go so far as to call up the telephone company and say, "Smith hasn't got a telephone, send one of your men out to see him;" and he makes two or three trips to see Smith, because he hasn't quite decided and he wants to talk it over with his wife about incurring an expense of \$1.50, 2892 or whatever the price is, for a telephone for a month. All those things go to make up the cost.

Now, we come into a fourth step, in the training of the forces, the operators, the commercial department, the management for the local property and the employees under him; the engineering department, plant department, with its general employees, its general foreman, a sub-foreman, cable foremen, cable splicers, switchboard men, inspectors, all of those employees; under the plant department, the linemen, the ground men, the installers and inspectors; then again we have a printing and postage and stationery connected with the expense of this department.

Whenever you need additional employees to do that particular kind of work, such as linemen, cable splicers, operators and so on you cannot go out and pick up employees of that kind from the street most any day.

There is another place where advertisements are used, the papers practically carry a continual advertisement from the telephone company, that they want operators, they want employees of different kinds; a green person would come to the office, especially operators, and men wanting to become familiar with the business; they have to be trained, and, of course, the company has to pay those men while they are learning. The operators get, I believe—I don't know what the price is here in Houston, but I think in St. Louis they pay the operators a dollar a day while they are learning, and then after they have learned the business, why, they put 2893 them on regular salary. It usually takes six or seven weeks before they put those operators on the board to serve the public; and it has been found that it cost, or did cost, up to a year ago, I am not familiar with the present day cost—about \$43.00 per operator to train them so that they can sit at the switchboard and answer subscribers. That is in St. Louis; that is in these larger plants—in fact, most of the plants of the Bell system.

The fifth step we come to is the first issue of the directors, with all of the necessary costs incurred in that department. As much attention is paid to the directory as there is to any other part of the business; without the directory, why, the telephone subscriber of the company would be absolutely helpless, he has to have it, and it has to be prepared in a way that it is intelligently gotten up so that the subscriber can readily find the information he desires pertaining to the telephone.

Then we come to the next step which is the Operating Deficits. For the period of the first year during the construction of any big plant,—in a small plant it doesn't amount a year, but in a plant of this size it would, where you would have the general expenses, the general records, the taxes, financing, brokerage fees, the dis-

count, the printing of stock certificates, printing of bonds, the loss of revenues during development, the maintenance expense that is incurred in a plant being erected, it has to be maintained just the same as though it were actually in service, and until put in service, whatever operating expenses are incurred, removals and  
2894 changes, traffic, commercial, collecting, uncollectible items, rents, replacements. There are other incidental items that would go into this part of it, as postage, printing and stationery, and maybe other items that I have not named and cannot recall right now. Those are items of expense which would arise during your construction and development period.

As to whether it is customary or not to work up the cost of establishing the business in dollars and cents as to the expenses which would be incurred for each particular item of expense, it has been my experience with the cases—in all of the cases that I have been connected with, we have set up the cost of establishing the business and allocated so much in dollars and cents to each particular step of the business; I have never in any case prepared it in that way, to the present day and hearing, but it is the customary way of doing it.

The sum of \$990,095.00 as the cost of establishing the business, which I have included in my set up, or in my appraisal, was arrived at in this way, that is twenty per cent of the total cost of the physical property, shown on line 14 of the final summary, page 1, or in other words, twenty per cent of \$4,950,475.00. I took the twenty per cent, flat figure, for the reason that the Courts, commissions have allowed it in just that way. In many decisions the courts have stated that this per cent is reasonable, say to include in the cost of the property this amount of money as a part of the capital charge, and that is the way a good many of the engineers  
2895 put it in these cases. They do that because it is a convenient way of handling it without the assistance of the entire auditing department to examine the books for years back to find out just exactly what costs were allocated to this particular step of the business; and an engineer would have a pretty hard time by himself going into the records to ascertain that.

Say that the plant had began operation way back about 1888 and had been brought down to the present time, an auditor could not get the information definitely as to what it had cost to build up the business in a plant of this magnitude. I don't think he could, for the simple reason that, as I stated, this morning relative to the books, that prior to January 1st, 1913, no system, that is, classification of accounts or prescribed classification of accounts was followed by any of the companies. I do not believe that an auditor could do it, and I know an engineer could not. The allowance that is usually made by engineers for the item of cost of establishing the business is twenty per cent. There is a case that has been referred to that I might refer to, and that is the Westenhaven case. The Commission did not make any allowance for the cost of establishing the business when that case was before the Commission, and I

talked to the Commission relative to it and they did not think that it should be included, and the case went up to the Supreme Court and the Supreme Court immediately added twenty per cent to the cost of establishing the business as a reasonable charge. That was the Supreme Court of Oklahoma.

We have a good illustration of the cost of establishing any business right here in the City of Houston. In going over the 2896 plant, my route took me to the basin down here, this port the City of Houston has established; the cost of establishing that business—while I could not get any figures relative to it, the mere knowing, that business principles had shown me that that was a very large item of expense to the City of Houston; to get that business started down there it has been necessary to dredge that channel, and at a great expense; it is one of the things that is going to, of course, make this one of the best towns in Texas, if not the best, because it has those facilities; but the cost of establishing that business is a good illustration, I believe, for the City.

Cross-examination.

Questions by Mr. Howard:

I do not mean to say that the Telephone Company spent a lot of money dredging that channel. I stated that as an illustration, it was a cost to the city to establish that business down there. I am just making an illustration as to the necessity of adding the cost of establishing business to any project.

"Q. Why, that is a cost of construction, you get an engineer if you dredge it out—and while it is a matter of administration, you are not administering the earth, you are constructing the 2897 channel, aren't you—and that is carried into the actual construction part?"

"A. Oh, well, you have all these expenses in it just the same, Mr. Howard."

I say that there are many decisions that state that 20% was the thing that was set up in reproduction in getting the value of the plant. I don't know how many decisions I have in mind; there is case after case of it, Mr. Howard; I have the Pioneer Telegraph Company vs. Westenhaven case, that was ten years ago. As to the others, I would have to get you up a list of them; I cannot recall any other case. I will tell you this, I will get you a list of twenty.

"Q. You have come here to testify and have stated there are many court decisions that said 20% was the proper amount to add, and now I have asked you for one, and you cited the Pioneer Telegraph Company versus somebody, that was one you were interested in and you recall that?"

"A. Yes sir."

"Q. That was in the Supreme Court of Oklahoma. Now, did you ever hear of any other case besides that one? I will tell you one where they allowed a considerable value, and that was in the Waterworks case. Do you remember whether they allowed 20% in that or not?"

"A. No sir, I don't recall."

"Q. You do not recall? Now let's take this one, Westenhaver. what is that?"

"Mr. D. H. Frank: That is the Pioneer Telephone & Telegraph Company against Westenhaver—or Westenhaver against the 2898 Telephoen & Telegraph Company."

"Q. Now, Low large a plant was that?"

"A. Probably \$100,000.00."

"Q. \$100,000.00? And this is \$5,000,000.00?"

"A. The same principle applies."

"Q. That same principle applies? Well, now, let's see if it does, that is one of the things we want to find out. You said a lot of these things, said in advertising it don't cost them any more to put in advertising for a \$5,000,000.00 plant than it does for a \$600,000.00 plant, does it?"

"A. No, the newspapers would charge just the same. You advertise more frequently in the large ones."

"Q. You might advertise more frequently in the large one?"

"A. And I guess the rates in the larger towns are larger than in the small towns, too; it will cost more, yes."

"Q. You think it will cost more, you think that will run all the way through 20% because they said 20% on \$100,000.00, because they permitted an item of \$2,000.00 to go in as the cost of establishing the business, getting up a little organization and having some investigation made as to whether it would be a good idea to put a telephone up in that town, and pay some of the hotel bills and incidentals, and allowed \$2,000.00, and because they allowed \$2,000.00 in that case, you think that was a precedent to add a million in this case?"

"A. I would add the same amount."

I would add the same percentage. I think it would cost just as much to stop at a hotel if you were overlooking a little 2899 plant as if you were overlooking a \$500,000.00 plant. Of course, there are variances and I have heard of them as high as 35%; I say I have heard of them just in reading the different decisions.

"Q. It didn't make much impression on you. Well, now, the first thing we are going to do is to start out and get somebody to make an advance survey of this thing to determine whether——"

"Mr. D. A. Frank: Fundamental plan."

"Q. Fundamental plan? Al- right. You have got other set-ups in here, the Engineering plan, haven't you—have to send for an engineer, and are getting up plans for it."

"A. That is the physical part."

"Q. That is the physical part? Now, over here under another item, you have got 2% for organization. Now, that is an expense, as I understand, that comes about preliminary to going to work."

"A. Well, that organization—I explained that this morning,—was general supervision, general expenses."

"Q. They wouldn't spend any time in going to Fort Worth or San Antonio and seeing whether a telephone plant in one of those towns would pay or not, or anything of that kind. What would they do with this fellow we are going to employ now?"

"A. Which fellow?"

"Q. The one that is going to make this fundamental plan?"

"A. Why, it takes an organization, Mr. Howard,—we have got a big organization—this Southwestern."

2900 "Q. Oh, yes. But we want to see what is the necessity of carrying along this big organization, of putting in this telephone exchange, we want to see how big a crowd we are going to get together here, about how many men you will get to do that work."

"A. I don't know."

"Q. You haven't any idea?"

"A. It all depends entirely upon the laying out, and how big the city is, etc. I have never made any particular study——"

"Q. Made no study?"

"A. I told you this morning as to the number of men it would take to do a certain piece of work."

"Q. You do not know how much you are going to need for them, you don't know how much you are going to pay the lawyers now to get the franchise?"

"A. I have made a rough calculation, Mr. Howard."

In my first step, the preliminary step on the fundamental plans and expert advice and so forth, I have allowed for this plant, \$4,950.00; that is one-eight- of one per cent.

On the legal expenses I have allowed \$44,550.00; that is nine-tenths of one per cent.

The third step is the cost of selling the service, of course, this embraces all those little items of detail that go into these steps; that is \$123,762.00, or two and five-tenths per cent.

The next is the training of the forces, \$32,178.00, or 2901  $\frac{65}{100}$  of 1%; the next is the first issue of the Directory, with the instructions, etc., \$7,426.00,  $\frac{15}{100}$  of 1%; the next is the operating deficits or \$777,225.00, or  $\frac{15-7}{10}$ %, making the total costs of establishing the business \$990,095.00, or 20%. Now, that is my best estimate and judgment as to what it would cost to do that in Houston.

As to what this fundamental business man is going to do to get \$4,950.00, I will read you what I have estimated that the department to which that is charged will do. They will find the amount of capital that is necessary,—I have gone over all this,—the approximate number of telephones that can be secured,—they are going to find that out,—they are going to make inquiry and find out the approximate number of telephones. That is in the study; would have to do it, or we would have to do it if we were going to invest five or ten millions dollars in a property, to see whether or not it was going to pay us to put in that much money. Now then, they have got to make an approximate estimate of the revenues to be received and what rates are to be charged. They are going to go



out and will have a map of the City of Houston, and they are going to locate their cable runs, their office buildings, their underground system, and all of the work incident to getting that business going. I guess possibly that department would have as many as twenty people in it and they are going to work four years,—all during the construction period of this plant and I am going to pay them \$4,950.00; I am going to use my big organization for this.

2902 "Q. Well, you allow \$4,950.00 for this work. Whom are you going to pay it to, and how much are you going to pay them, and for how long a period? You have set up this figure now, \$4,950.00 and you have got the \$50.00 on, which indicates that it is worked out with some accuracy. Now let us know how many men there are in your organization, what type of men they are, what degree of skill, how long they are going to work, and what is going to be the rate of pay, because you must have done that, or you wouldn't have had down \$950.00—you must have done one of two things, worked it out accurately or guessed at it."

"A. Mr. Howard, I have seen those, or approximately those figures worked out in a good many cases, I have just made an approximate estimate of what it would be."

"Q. You have guessed at it?"

"A. No, I haven't guessed at all."

Q. Well, you haven't been able to tell me how many men would be employed or their financial rating or how long they were going to work? Now, take the next item, \$44,554.00, that is worked out with a great deal of accuracy because you have left off the odd dollar and worked that out accurately."

"A. It gives us nine-tenths of one per cent."

I get this nine-tenths of one per cent, because those are figures I have adopted and used for the purpose. I just adopted it, that is it exactly. I know these figures have been allowed in other cases, and are usual. I worked these figures out for the Missouri Commission in the Springfield case, a plant of over a million dollars, and 2903 worked it out for them in the Home Telephone Company case at Joplin. I cannot refer you to the report where they have adopted this nine-tenths of one per cent for lawyer's fees. With reference to what service they are going to perform specifically, at the start of my testimony in this step, the reporter took down all the different items that came under the legal expenses of this property. That was under the second step of this proposition and is all under the heading of "Legal Expense". It is already in the record. We were not a going concern.

"Q. All right. You say here they are going to get a franchise. Now are you going to pay the lawyers \$44,554.00 for getting a franchise? Can you tell me one simple thing or substance that the lawyers are going to perform for which you are going to pay them substantially \$44,000.00?"

"A. I read it all into the records, sir."

I will tell you what they are going to do; he is going to procure the charter. I don't know what he is going to procure the charter for. I put in \$44,554.00, because I say it is the same figure I have

used in other cases, and is as applicable in this case as in any other case; and that is not the only service he is going to perform, if you are going to limit it to the individual. He is also going to attend to the raising of capital of the company; he is going to finance the company; we are going to have him draw the papers. As to what papers he is going to draw and what is going to be a reasonable charge for drawing the papers is already in the record. Yes,

2904 sir, I think that I will undertake to reproduce the record.

If you will let me answer a question now before you begin another, I will get it in. He is going to attend to procuring the charter, he is going to assist in the capitalization, he is going to attend to the paying of the charter fees, and that part that comes in there—the filing and recording of the charter, the organization—

You are interrupting me, sir. I cannot be interrupted every few minutes and testify.

“Q. Now, tell us—you are telling, now, about the lawyer’s fees, you understand, and you have told me he is going to prepare the charter and is going to draw up some papers in connection with the capitalization, and then you said he was going to draw the charter. Of course, the lawyer don’t do that.”

“Mr. D. A. Frank: What he means is, file it.”

“A. He is going to file it.”

“Q. All right, he is going to send the charter up to Austin and have it filed.”

“A. And then there is expense in connection with incorporation, and there is a corporation record to be secured, the Secretary’s books and other records.”

“Q. Is the lawyer going to secure those?”

“A. And secure a city franchise.”

“Q. How is that?”

“A. And secure a city franchise.”

2905 “Q. Well, what is the lawyer going to get for securing city franchises, that is what I would like to know, how much you allow him for that?”

“A. The expense of securing a city franchise.”

“Q. How much is that?”

“A. Expense of collection, postage, stationery and stenographic help in connection with this department.”

“Q. In connection with the legal department?”

“A. Yes, sir. These items that I have read to you are what is usual, considered as part of the legal expenses that enter into the cost of establishing a business of this character.”

“Q. All right. You cannot tell me one specific charge.”

“Mr. D. A. Frank: Heat, light and water.”

“A. Yes, sir.”

With reference to whether or not I can tell one specific charge, I haven’t the items, I am just putting it down as a flat percentage and just dividing it up so you could see what it would be.

Taking this item of \$123,762.00, that is your selling service. As

to what I mean by that, that I said, was the third step of expense relative to this item, and it includes the advertising. There are various classes of advertising that come into the establishing of any kind of business; you advertise that you are going to do a general telephone business.

2906 "Q. Now, Mr. Player, just there you have told us that—that you advertise you are going to do a general telephone business. What is the necessity of advertising that you are going to do a general telephone business in a town of 160,000 people, where a telephone plant is going to be constructed,—what are you going to tell them?"

"A. In the first place you wouldn't have a town of 160,000 people when you begin this business, you would have—the town grows as the business grows."

"Q. Well, I understand you are talking about the way this plant is built up, the existing plant you are getting for the city?"

"A. No, sir."

"Q. You are to reproduce this plant, you are to put it up now?"

"A. That is true, but your costs go right on ahead with your increasing business."

Well, I will advertise that there are certain classes of service and certain rates, so that the people will be familiar generally with the charges that I make for different classes of service; I will advertise that the local subscriber can talk to any other place in the United States over my lines, I will give them that information.

"Q. Now, is that during the initial period, or doesn't that run on a while after the plant gets into operation?"

"A. Oh, we begin to advertise, to let them know what our business is going to be."

"Q. All right. Now you are going to put in some advertising. Now, about what is that going to cost you?"

"A. \$123,762.00."

2907 "Q. What,—just advertising alone?"

"A. No, sir."

"Q. Well, I was asking about the advertising?"

"A. I don't know."

The next thing I am going to put in is I am going to have solicitors go out and solicit business; I am going to have enough solicitors to take care of a town of this size. I haven't made any estimate of the number of solicitors I would have; I would have to give that further study.

The next thing besides the advertising and solicitors, I would have the cost of all the stations that were disconnected and changes of the records in that respect, etc. during the period; I haven't made any estimate about how many of them there would be and how much it would cost to make those changes. This is the cost of selling the service; I have not made any attempt to itemize the cost of any one of the different sub-divisions.

This item of \$32,178 is for the training of the forces; I am going to train enough employes to operate this plant and that will be something in the neighborhood of seven hundred employes, and

to get how much it is going to cost to train each one of them, I would divide \$32,178 by seven hundred. I am going to set up a school for training; each employee has to be trained along a certain line of work that they are engaged in in order to become proficient.

2908 No, sir, it is not a fact that in the practical operation of these telephone companies that they go into colleges and high schools and find boys who are about to graduate out there and that they pay them wages of some kind for about two weeks, give about two weeks' training, and then those ordinarily bright boys go out to installing telephones after two weeks.

"Q. You are going to say that the bright boys all over this country who never knew anything about the telephone business before couldn't reach that degree of efficiency in four weeks, that he can go and install a telephone?"

"A. I would like for you to show me some of them; I have never seen one.

For the original directory I have \$7,426.00. The original directory and all directories don't more than pay for themselves in advertising; I don't know that they do. Yes, sir, I know that they don't. I have printed directories many times that I couldn't secure enough advertising to pay for them. I haven't looked up a directory here and don't know how much advertising there is in it. I do not know how much it costs to print a directory. It is a fact that a great deal is covered by the advertising returns; but you have got a department that takes care of the compilation of the directory.

This brings us to the item of \$77,225; that expense is going to come in in this way; that there is no revenue whatever accruing during the first year and in addition to that while the plant is under construction and we have the heavy expense of organization, etc., and no revenue coming in we have a deficit naturally, and that deficit does not begin to be made up for several years to come. Interest during construction has nothing to do with it,—with the cost of establishing business.

"Q. You haven't been operating, and interest during construction salaries during construction have been taken care of, what deficit are you speaking of?"

"A. Yes, taken care of in this account, cost of establishing business."

"Q. Salaries during construction go into the deficit account?"

"A. You are confusing——"

"Q. (Interrupting.) No, I am not confusing anything, but I am asking you a question. You have told me that you were starting in with a deficit at the beginning, because you haven't been operating for a year, and now you are telling me about salaries and about employees; where do their salaries get into deficit?"

"A. There are no revenues coming into a plant of this kind until after the operating period begins."

Up to that time I have not taken care of these expenses by supervision, engineering and overhead and interest during construction. All this overhead and charges to general expense was taken care of in the physical property itself.

"Q. And the interest during construction during that time has been paid for, so, now, when you get the plant built, what else have you?"

"A. In the first year of the period——"

"Q. (Interrupting.) I am not talking about the first 2910 year, but when you actually get the plant built. Have you any subscribers—have you any salaries,—if you are considerate a little bit, we might get this up to the point of the completed plant, and both start as we want to, so let's understand whether you claim you have any losses in deficit that have got to be taken care of in that time?"

"A. I will say not."

"Mr. J. D. Frank: What are you speaking of, deficits during the development period?"

"A. Yes sir."

With reference to what the deficits are and how they occur, during the first year of the operating we began installing our telephone, and the telephone installed will not pay enough revenues to pay all of the expenses incident to the cost of running this business. After you start up operating, you have completed your plant and start operation and are going to begin putting in your telephones.

"Q. But you are going to get in so few telephones,—you have got twenty-seven thousand of them, your plant has been reproduced all right, and is all built right up to the subscribers?"

"A. New, there are other items,——"

"Q. (Interrupting.) Yes sir. Now, why did it take a year to begin to getting in earnings on this company's investment?"

"A. They wouldn't get any in a year."

"Q. Why not?"

"A. There wouldn't be enough installations made to make any earnings."

"Q. Now, let's analyze there a little. You are in a city now where the people are wanting service, and you are all ready except 2911 the the installing of the office equipment, that is the subscribers' equipment. Now, you have twenty-seven thousand subscribers in the equipment you are going to install, and, you say you are going to get only a part of these in during the first year?"

"A. Yes sir."

"Q. How much of them are you going to get in?"

"A. I will probably get a third of them in."

"Q. What is going to be the limitation of your getting more in, the physical impossibility, or the limitation of not having the business?"

"A. Both. During that first year, advertising and selling this service."

"Q. What are you advertising for, when, as you understand, you are reproducing this plant under similar conditions exactly that prevail here in a town of one hundred sixty thousand population, trained into use of the telephone, clamoring for the service and can't get it——"

"A. (Interrupting.) You asked me in the previous question why I couldn't get more than a third in."

"Q. Why, couldn't you?"

"A. Because both on account of lack of plant facilities, and lack on the part of the subscribers taking the service as we expect, and you have got to advertise and go out and sell it."

"Q. What are the lack of plant facilities, what are your limitations in that respect?"

"A. All right. The plant is built in a four year period; it isn't all completed at the end of the first year."

2912 "Q. Well, you are taking four years?"

"A. Surely, this is spread out over the period of time of the construction."

"Q. You are taking four years to construct it, and it is then completed and the people are ready for the service, now, just tell me what on earth have you got to do,—during this period of construction you have had your contracts printed, you wouldn't wait until your plant was all constructed and then start to printing your subscribers' contracts, or getting your office ready. You will have your plant, and will have your contract forms all printed, you will have your necessary books that you are going to set up business when it comes in, and you are assuming too that there will be some contracts signed up prior to the time the plant is completed?"

"A. No sir, I am not assuming anything."

"Q. Well, you told me you were going to get the first year one-third of your subscribers. Aren't you going to start at all to getting subscribers attached until the plant is completed?"

"A. I told you I would only be able to get about a third of the subscribers installed by the end of the first year."

"Q. Now, I want you to say why that's so?"

"A. Because I can't work my forces any faster than that, and can't get the equipment any faster than that."

"Q. You have had four years to get this equipment all here?"

"A. No, sir, I have only had a year."

"Q. Only had a year?"

"A. Yes, sir."

2913 "Q. You knew when you started the plant you were going to have about twenty-seven thousand subscribers, didn't you, and you don't mean to say now that you are going to go ahead and complete your plant and then begin getting your subscribers' equipment?"

"A. I am not making all of this charge for the entire four years; for a third of the subscribers,—"

"Q. (Interrupting.) Not doing what?"

"A. I am spreading this over the entire four years, and am not making any specific charge for any one year. I told you when I started to give the detail of this that my best judgment from past experience was that was about what it would cost to establish this business; but I haven't worked out in dollars and cents the exact details, and now you are asking me as to what it would cost in dollars and cents in detail."



I have given the flat percentage that in my judgment would be charged for from this. I would undertake to say that it could be worked out as a problem from my figures; I believe it could be worked out very nicely, but I have not done it. I do not know from working it out and trying to get down and determine how long it would take to get the subscribers under these conditions, or how long it would be before my earnings would be up practically to full capacity; I have not determined that in detail. So then this \$777,000 finally comes back to this same thing even after I have undertaken to give the set up of the different items and applying the prices to them, it just comes back to the point that I think 20% is right, because it is what has usually been allowed.

2914 As this plant has been building up and they have been taking on new subscribers, I do not know it to be a fact that whatever cost of advertising came about in trying to attach and acquire that business, and also the cost of installing the subscribers' phones and things like that and the cost of printing the directory have all been paid out of operating expenses.

(By Mr. Howard:)

"Q. I don't understand you to say that you don't know that on account of the fact that you haven't concerned yourself with the books?"

"A. I don't know the detail of it."

2915 Direct examination.

Questions by Mr. J. D. Frank:

"Q. Just one or two questions I want to ask on that in connection with the matter of the issuance of the first directory. You are getting out the very first directory in connection with the opening of the plant here. Would you expect to get as much advertising in that as you would in a directory where the plant has been in operation for a good many years?"

"A. In the first directory you would very likely have mighty little advertising."

It is also a fact that the cost of the first directory would be a great deal more than the subsequent directories.

With reference to counsel questioning me with reference to the installation of telephones, as to whether or not it is a fact that it is a physical impossibility to install twenty-seven thousand telephones in any one year, I will say I never heard of it being done. I will say this, that one man and his helper can install on an average of about three telephones a day if they worked just as fast as possible for him to do so, you can figure out how many men it will take to do that installation work and it would be a useless expense even if it could be done and you installed twenty-seven thousand telephones ready for action.

If you installed twenty-seven thousand telephones and had them

installed on the day you opened up your plant for operation  
2916 I would not expect that all of these places where I had installed telephones would actually take the service.

As to whether or not it is also a fact that just in the normal course of the telephone business people very often order telephones and then when you go to install them they change their minds, I have had that happen myself. I have signed a contract, and taken the telephone ready to make the installation and they had changed their mind about it. If you went out to install twenty-seven thousand telephones over a period of two years, before you are ready to begin operation, you would probably have at least several thousand of those who wouldn't want the service by the time you were ready to give it. The fact that you would not begin installing these telephones until about the time you were ready to begin operation is the general way of doing business. As to whether or not you probably would make no charge at all for the service until you had ten or fifteen thousand of the telephones installed, you see advertising by the companies, and especially where there is competition, that there will be no charge for any service rendered for a year or until we get fifteen thousand subscribers or ten thousand subscribers, that is frequently done even where there is no competition, why, the company agrees to make no charge for service until such and such a number of telephones are connected. In other words, if you installed ten telephones in business houses in a plant of this size and charged them whatever rate you charge for your service, the service would be absolutely worthless to those ten houses. The extent of the service is what makes the service valuable; the  
2917 more stations you can talk to the more readily will the prospective subscribers take the service, and if you have just a few subscribers connected with the plant, no matter what size, the service would have mighty little value, and by virtue of that fact, why, the company agrees that until we have such and such a number of stations installed, until we can give you service that will be of some value to you, we will not begin to charge you anything for this service, and it might be that it would be six months or a year, maybe eighteen months before you began charging for service. I would just depend on conditions.

I did not intend to work this out in dollars and cents as to each item of expense that would be incurred in building up this business. If I had worked it out in dollars and cents it probably would have been more than 20%; I am sure that it would. At any rate this represents my best judgment based on my experience in the telephone business and my experience as a valuation engineer in connection with these Public Service Commissions that I have represented for years and it is a conservative estimate of what it would cost to reproduce this business.

## Cross-examination.

## Questions by Mr. Howard:

2918 "Q. Mr. Player, on this last item I have no doubt there is some deficit, or some loss in this initial period of starting business, even would be in a town of this size, if you were to build the plant up and start new, it is bound to be some cost and will take a little while to get in full swing. Now, it occurs to me that can be worked out to some little approximation, and I would like to see where we would come out. You have already stated to Mr. Frank, that one man can, with his helper, could install three telephones a day?"

"A. About that, yes."

The only limitation upon the number of men that could be conveniently employed in that kind of work in a plant constructed for these installations would be whether or not it would be economical or good business. As to whether or not a force of one hundred men would not be a terrible large force where there are a great number of people ready to take the service and ready for the service, you understand, that as you increase your force of that sort all of your other expenses increase in proportion. Yes, it would be a terrible job to get an organization of one hundred men to install telephones; that would be a pretty big job right now. One hundred men could conveniently work on the plant and would not be in each other's way. One hundred men would not install three hundred phones a day. I did not state that one man could install three; I said one man with his helper,—you have got two hundred.

"Q. I understand that you have only got one man installing telephones but I am talking about the telephones installed. One hundred pairs then would install three hundred phones in a day, or nine thousand a month by working on Sunday?"

2919 "A. Yes, if it would be possible to get that many."

"Q. Well, then you would put in twenty-seven thousand in three months?"

"A. Twenty-seven thousand, you are assuming that, but that wouldn't happen."

"Q. I have taken your figures and have got no fault to find with them, now, let's hear it?"

"A. Well, we haven't sold that much service."

"Q. Well, the people here are all clamoring for the service and are up there lining up for the girls to let them sign the contracts and place their names on the books; they would be there and the trouble you would have, would be that you would have to have policemen to keep them from coming into your building?"

"A. All right, let's concede they do that. Well, I agree with you if your assumption is correct."

"Q. So there would be about three months where they would be a probable loss of returns?"

A. No, I am only agreeing——"

"Q. (Interrupting.) Or one and one-half per cent on the investment?"

"A. No, I am only agreeing with you from the assumption that we are going to have all these men here at one time and all of the instruments."

"Q. Well, that is going to be a fact."

Mr. D. A. Frank: Why not assume that you will have fifteen thousand at work and put them all in in two days.

2920 Mr. Howard: Well, they could do it in three months. Well, we can figure the loss in earnings then.

Direct examination.

Questions by Mr. J. D. Frank:

If I were to start out today to get one hundred men to install telephones I have no idea in the world where I would get them; I do not believe it could be done at all, an absolute impossibility. I know that that kind of labor is scarce and that all companies have a hard time in carrying on the business that they have. I know this that if this company could get the men to do the work that the applications that are in this office now for service would be put in immediately instead of having to wait, they just can't get the help and that is all, and they are losing revenue, as a matter of fact, the installation of the telephone is only one very small step in connection with the preparation of the physical property for furnishing service; that is true. You would have to have other mechanics working in your central office, on your cables and things of that kind in order to actually furnish this service after the telephones were installed, not only that, but your operating force and clerical force and everything that goes to make up the giving of the service. As to whether or not one hundred men would get in each other's way on the switchboard, I will say I never saw more than fifteen men on the largest installations at one time.

2921 I have not figured out in this case how much taxes would have to be paid during the construction period; I do not consider that I have covered that in any phase or any part of my appraisal, haven't made any allowance for that at all, except in the cost of establishing business under this item No. 6. I mentioned taxes.

Mr. Howard: We are willing to allow that.

Instead of figuring out what the taxes would be during the construction period I figure that is included in the 20% allowance for the cost of establishing business; it has always been considered part of it where I have had anything to do with it. I may be right, or may be wrong, I do not know.

With reference to the final figures that I get on the cost of reproducing this property in Houston, the figures shown on page 1, line 18, as the grand total under the column "C". "N", which means the cost new is six million one hundred and three thousand,

three hundred and eighty-four dollars; under the second column headed "C", "L", "D", meaning cost less depreciation, five million five hundred forty-two thousand, eight hundred fourteen dollars. That is based on the five year average prices from 1914 to 1918 inclusive.

I am familiar with what the original cost of this property was as shown by the books of the company, and am also familiar with the gross additions which have been put into the plant during the last nine or ten years; I have seen those figures. I am also familiar with the net additions which have been put into the plant during the last nine years; I have seen those too.

2922 With reference to the proposition of how much will probably have to be spent in the matter of extensions and so on in the next eight or ten years, in going over the plant generally, in talking with different business men as to the future prospects of Houston, considering the increase in population, the number of factories that are going to be put up, and will be put up, the general extensive business that will be indulged in and enjoyed in this town, in my judgment, I think you will have to spend in the neighborhood of three millions of dollars within the next ten years in order to supply the service desired.

I am familiar in a general way with the financial history of the plant and how the property has been built up since along about 1901 as shown by Mr. Scott's exhibit as to the property account.

From the study which I have made of this community and the conditions in this community I would say that there is a need for a larger plant; there is great need for a larger plant than the one that you have here now. From the studies that I have made I would say that there will be an increase in the demand for telephone service in this locality, owing to what appears to be the reasonable increase in population, building and so forth there will be. Basing my opinion on the studies which I have made with reference to this community and the plant and its location and so on, it is my opinion that this plant is capable of earning money under normal conditions and circumstances; a telephone property in a town the size of Houston should under normal circumstances earn money. In my opinion it has at least a potential

2923 earning capacity.

I have made such a study of the plant as to familiarize myself with the plant itself; I have been all over the plant. In my earlier testimony I stated that it was one of the best constructed plants in the country, it has been maintained, was well engineered, that there was nothing connected with this plant that wasn't what would be considered first class in every respect. I would say that the plant is favorably located. I think that the plant has been well engineered and is taken care of in an efficient manner at the present time.

I have given some study to the history of this community; I have talked with people as to the prospective growth, and the growth in the last few years. The history of this city with reference to growth is that it has been rather a fast growth. Approximately

the population at the present time is about 160,000. From the study which I have made, the prospects for this city with reference to future growth are very great; there are more industries coming into the city, more factories being built. This municipal port that they have opened up will have a tendency to increase business which, of course, in turn, increases the population, people have to come here to take care of this increased business, and I believe the town, the city will increase very rapidly. It is not at a standstill by any means.

In arriving at my estimate of the value of the property constituting the Houston Telephone plant I have given due consideration to all of those facts.

2924 "Q. Basing your opinion on all of these facts, such as the original cost of the property as shown by the books, the cost of reproducing the property in its present condition, taking into consideration the size of the plant, the character of the plant, its location, the past history of this community, the future prospects for the city and the prospects of this plant for earning money under normal circumstances, what, in your opinion, in dollars and cents at the present time is the value of the property, constituting the Houston plant of the Southwestern Telegraph & Telephone Company."

"A. Irrespective of this appraisal that I have made on a five year average, I would say that the value of the plant today would be no less than seven million seven hundred thousand dollars in round figures; that would be the present condition of the property."

Cross-examination.

Questions by Mr. Howard:

I made this appraisal as a measure of what it might cost to reproduce this property on the basis of using five year average prices. As to why I took those five year average prices, going back to the first two pages of the record of my testimony, you will see that this company when they asked me to make an appraisal of the property, that I had no instructions as to how to do it, or anything in connection with it, except that when I finished my report I should submit the report, and I have been familiar with material prices and labor and have been doing this class of work for the last ten years on a five year average price basis and so adopted that procedure in this case. I thought that was about right as to the reproduction on a five year basis. I thought that was about the way to get at a proper appraisal of the plant.

2925 "Q. All right. Then you got an appraisal of something like four million dollars, and you added to that something for overheads, I believe, then you added on something for working capital, you added on something for stores and supplies, and you got something like four and a half million, didn't you?"

"A. No sir, adding the matter in of what you had stated there, I got about five millions."



"Q. Got about five millions. Then you depreciated the plant and considered about eighty-five per cent condition and that runs through all your figures?"

"A. No sir, I gave my estimate of that, 88.7% condition."

"Q. You never figured it out to see?"

Mr. D. A. Frank: 87.8.

"Q. Have you figured it out to see what it is?"

"A. It was 88.7."

Mr. D. A. Frank: Well, I was wrong.

I consider that the depreciable part of the plant should be depreciated to the extent of eleven and a fraction per cent; I found  
2926 what the condition per cent of the property was. I got the value of the physical properties, then depreciation, after making this return, of this appraisal in the way I thought was fair I got four million, seven hundred twenty-one thousand four hundred and fifty-nine dollars for depreciable assets new. I have the depreciated value appraisal of cost less depreciation of the whole property but do not show the other subdivision.

"Q. But, anyhow 11% would be something over four hundred thousand dollars and would bring it down to approximately how much?"

"A. Well, I can figure it for you."

"Q. Well, take 10% off, you can do that quicker, probably do that in your head?"

"A. Well, four million three hundred and fifty thousand dollars."

"Q. Four million three hundred and fifty thousand dollars, physical property value. Then you add the other things, and get it up, including in round numbers a million dollars for going concern value and you get a final figure of about five and a half million."

"A. Get a final figure of five million, five hundred forty-two thousand, eight hundred and fourteen dollars."

"Q. That included physical plant present conditions, working capital, included all the contingencies, including overhead, everything that you thought of under contingencies, and included the working capital, included this million dollars going concern, that we haven't been able to figure out. Now, what do you omit in  
2927 getting the final figure of five million five hundred thousand dollars?"

"A. I have omitted using any present day prices on materials and labor."

"Q. But you have already told us that wouldn't be the fair thing to do for appraising this property for the purposes of this case. You have told us that the fair way in your judgment would be to take the five year period and strike an average?"

"A. I said that was my opinion; that I was doing this as I had done it in the past."

I think it represents the reproduction cost, less depreciation on that basis that I had worked it out. I thought that the fair way

because when I was told to make an appraisal and bring it in here for the purpose of enlightening the court I took that method; I think that was fair on the basis that I worked it.

I have not given any study to what the value of the plant should be for rate making, but think the present value of the property as of today would be seven million seven hundred thousand. That would include the advanced or the present day prices and everything.

"Q. Do I understand that you mean to tell the court that to reproduce the property in the same way you have it here would probably cost seven million seven hundred thousand dollars now, and in your report, in the way you thought fair you say it would be five million and a half; the cost item seems to have been ignored?"

2928 "A. I wouldn't say just that for this reason, when I started making this appraisal the year of 1919 was not ended, and I used the prices for material that I had and was familiar with, which was the average price for five years, 1914 to 1918, inclusive, leaving out the 1919 prices. If I were at work on it today on another year, I possibly would include the 1919 prices."

I very probably would include them. I did not include them in the first appraisal; the five years I used were 1914 to 1918 inclusive. If I made it today I very probably would take 1915 to 1919 inclusive, and if I was going to reproduce its cost value today I would use 1919 prices.

"Q. But for the purpose of rate making you considered the average the fair way to get at it because that was the method you originally adopted?"

"A. If you want my opinion as to what the figure should be for rate making purposes—"

"Q. (Interrupting). No, I don't want that so much, Mr. Player, as I did your opinion at the time you made this appraisal, that you made it for this five year average period, because you considered that fair, is that true?"

"A. I considered it the fair measure of what the value of this property might be."

"Q. That was for the purposes of rate making, you understood that, at the time?"

"A. For the purpose that was desired."

2929 "Q. Now, Mr. Frank enumerated in the things yesterday the information that you followed with reference to the original cost and that considering prices and asked your opinion of what that was. There was nothing in the original cost figures that induced you to raise the value above five and a half million, was there?"

"A. Oh, no."

The fact of the matter is that is considerably under that figure.

In this inventory that I went over and checked up the per cent for the purpose of this plant I did not determine any percentage of the properties that were being used for long distance tolls.

I did not eliminate any items from the physical properties that

I found in the inventory. I took Mr. Hoag's set up in that regard just as I found them, because all of the property is in the exchange that is used and is useful in the operation of local service, as I understand it, is included. I checked the inventory over and found no property that should not be included. Practically none of the items I have included in my appraisal are used for long distance business exclusively. The whole plant is used for long distance service and at times becomes part of the local telephone exchange, but the exchange is remunerated for any expense it is put to for that purpose. There is an item of payment to the local exchange for any expense that it is put to relative to running the long distance service. I did not audit those accounts but know from 2930 past experience that has been done. What has been done in this particular instance I do not know because I have never investigated it.

"Q. Just one more question. On page 41, Mr. Player, you will notice down there under this account, 15-C, the last item 15 No. 546 coils, what are those used for?"

"A. Those coils are used in the transmission of messages, that is, that is called a loading coil guys equipped with 15 No. 546 coils on a trunk cable."

All of the trunk cables between offices have loading pots, what are called loading pots. These, as I understand it, are used for local purposes. That is a great big iron,—what is called a pot, a loading pot and those records and those charges are gotten from the records of what those pots cost.

Direct examination.

Questions by Mr. J. D. Frank.

I have the final figure here on page 1 of my summary as reproduction cost new less depreciation, as five million five hundred forty-two thousand eight hundred fourteen dollars; I did not mean to say by that that was the value of the property, I explained that by saying that that was the cost less depreciation on the property figured on appraisal of five year average prices, that it would not represent the value of the property in any sense of the word, for 2931 the simple reason that the prices have increased anywhere from thirty to forty per cent over the five year average, and if you are going to reproduce that property today to get the value of the property, not an appraisal, but the value, it would show a figure, in my judgment of not less than seven million seven hundred thousand dollars. In my opinion it would be worth at least what it would take to reproduce it taking into consideration the present condition of the property.

"Q. Now, Counsel has questioned you with reference to certain parts of the property used for long distance purposes as well as local purposes and you stated that was taken care of by certain allowances to the local exchange. Do you know how much is usual to allow the local exchange on account of long distance arrangement?"

"A. That matter has been gone over to my certain knowledge in over one hundred cases in which I have participated in, and an allowance of 25% is the standard allowance."

That is the allowance made by the Oklahoma Public Service Commission, and the Missouri Public Service Commission. I know from my connection with the Commissions that they have made an allowance of that kind in nearly one hundred cases,—in over one hundred cases that I have been connected with. The contention was not made in any of those cases that the 25% was too low, or that more should be allowed than the 25%; it has always been the fixed amount, and the Commissions recognize that as a fair allowance and allowed it in various cases. At one time, several years  
2932 ago, as low as 15% was being paid, and the Commissions raised it to 25%. I know whether or not that is the allowance made by those Commissions at the present time; I know that they allow that.

Cross-examination.

Questions by Mr. W. J. Howard:

"Q. You, as an engineer, Mr. Player, have never tried in all your long experience on Commissions, have never tried to work that out to see whether that was an arbitrary allowance, or whether it would bear some relation to the service rendered by the respective companies, the long distance and the local exchange, never went into that, Mr. Player?"

"A. I can say that with every telephone company in Oklahoma that I made a specific set up as to the cost of handling the long distance business by the exchange and as to what commission should be paid, and it ran higher than 30%. In some cases they asked for an allowance of as much as 50% for handling the long distance business, but the Commission found that 25% was an equitable amount."

"Q. But they did raise it from what they had been allowing, 15%?"

"A. To 25%".

"Q. My question is, Mr. Player, whether that Commission, or whether you as their engineer at any time ever got the idea by working it out, something upon a partnership basis, where they are joint enterprises in handling the messages as to what portion  
2933 should be set aside to each. Whether you ever tried to work it out that way instead of taking the local exchange and just paying it enough to pay for the expense it was put to in handling this long distance business. Have you ever tried to work it out with a view of letting them participate in the profits of the transaction?"

"A. No sir; I have only had experience with it as I told you."

Just compensated them for the expense of doing it.

Direct examination.

Questions by Mr. J. D. Frank:

The most of the property used in long distance calls is property outside of the city; you have got thousands of miles of poles, wires, and things of that sort used in connection with each long distance call; the equipment within the exchange is a very minor part of it.

2934 The qualifications, experience, etc., of the Witness, C. A. Gates, are set out herein at pages 237-244.

C. A. GATES, a witness for complainant, being duly sworn, testified as follows:

Direct examination.

Questions by Mr. J. D. Frank:

I have not made an inventory of the property constituting the Houston telephone plant. I have made an appraisal of the property constituting the Houston telephone plant of the Southwestern Telegraph & Telephone Company based on an inventory that was made by the company through Mr. Hoag. The book you hand me is the inventory. That is a copy of the inventory that was given me as representing the inventory made by Mr. Hoag, representing the property in the city of Houston. Plaintiff's Exhibit # 13, Inventory of Southwestern Telegraph & Telephone Company's Exchange at Houston. I had a true and correct copy of Plaintiff's Exhibit # 13, which I took as the quantity of the property. I accepted that as being the quantity. I am familiar to a great extent with the property in the city, having built the larger part of it, either directly or indirectly, and, of course, know it cannot be very far off.

2935 In making the appraisal of the property constituting the Houston telephone plant I first built up a set of unit costs and determined what each part of the distributing system would cost to build. I have here a set of unit costs which I have prepared.

In getting my material prices and my labor costs I took the records of the company showing the prices that had been paid for material for the first nine months of 1919 as a basis for most of my prices. Where those prices had changed materially, where they were not fairly representative of the prices that I thought would obtain while this plant would be built, I secured prices where we did not have the prices,—I secured prices. In other words, for my material prices I have taken the average prices for the first nine months of 1919, just as far as those prices were obtainable or were representative.

With reference to labor, I took the prices that were being paid in the city of Houston for that labor during the last half of October, 1919.

I said something about the time during which this Exchange would be reproduced and was referring there to what is known as the economic construction period. As to how long I figure it would take to reproduce this Exchange, I would say that it would take three

years to get your Exchange in operation with half of your subscribers. As to why I am taking three years as the time necessary to reconstruct the property, having built this property, I am rather familiar with the time required to actually install what is here today, and I have also considered the conditions as they exist today as varying from the conditions under which I built and installed the present exchange. I have also talked with contractors as to the probable time required to build the building. I have studied the situation as a whole, and taking all things into consideration, I think that three years would be the most economical period. To start with, one would have to determine where they would want to build this exchange new, and then some study by an expert as to whether or not the exchange would pay—whether it would,—whether the town would be a desirable town in which to invest money. After these facts were determined a study would have to be made somewhat on the line of what we call a fundamental study, fundamental plans, you would have to determine where the subscribers could be secured, how many subscribers could be secured, where would be the economical point to build the building, build your exchanges, how many buildings would be needed. That would all take some time, and that, in my opinion, would be about two months; the proper force could determine about where you wanted to buy your lots, buy your land. It is very common practise with us to lay out your switchboards, your apparatus floors, and build your buildings around them. The Preston building was built in that manner. Our building laid out and engineered before the plans went to the architect. Our switchboard was ordered and I estimated that that could be done in this way, that in order to do the job in three years it would be necessary to order your switchboard about the time you started your plans in the hands of your architect, and that during the period they required to build the buildings, which in the case of the Preston building, under existing conditions would probably be about thirteen or fourteen months, the manufacturer could build the switchboard, and when your building was finished your switchboard could be put in, and probably one year would be required to install it. During the time your outside plans could be engineered and the work started, and by the time your switchboard was installed your outside plant would be very well along, and probably at the end of the three-year period, in fact, perhaps two or three weeks in advance of that time, according to the schedule that I have drawn up, you would have your plant ready to operate with one-half of the number of subscribers that you have here today. I think that would be probably the most economical period in which to build the plant.

What I would want to do is to construct the plant without having to go to extra expense on account of rush work, would not want to rush it; would not want to build it in pieces. You would want to build it as a continuous job in order to get the most economical construction.

In arriving at my unit costs and considering the prices which you would have to pay, I have not proceeded on the theory that you



would construct this plant in piece-meal fashion, do it on a whole-sale basis. The prices are all on a wholesale basis, the idea being to start the work and carry it along just as nearly as possible as a continuous job, and not have a lot of idle time, and a lot of men standing around, or a lot of plant lying idle eating its head off with interest.

2938 I have taken the average price of the first nine months of

1919 as the prices of material because I think they will come nearer being the prices that you would have to pay for the material that would go into the exchange constructed in the manner that I have outlined. What I was trying to do was to determine what we would have to pay for materials during the construction period. Now, the chances are that the prices would go higher for the first nine months, because some of the materials have gone up since that time. The prices that I have used are just a little bit lower than the present-day prices, and I would say this, that in order to build this exchange within the six-month period, or within the three-year period, it would be necessary to either buy or contract for the great bulk of the material that goes into this property within the first six months. I have used present-day labor costs because they are certainly the lowest costs that I can expect to build this exchange with, and they are probably not what they would be. Every bit of labor in the country is going up in price, and it does not appear that with the demand that we would have to create for labor here in order to build this exchange that we could get labor for even present-day prices, certainly not any less than that. In my opinion, it is the very lowest figure that would be safe to consider.

In a general way I have made a study of the past history of prices of materials that enter into a telephone plant of this size. I am familiar in a general way with the prices of materials, how they have fluctuated in the past and what increases there have been. I am familiar in the same way with the present-day prices of these materials; that is, the tendency. With reference to the his-

2939 tory of the prices of materials that enter into the construction of a telephone plant of this magnitude, during the last ten or fifteen or twenty years has been a general upward trend, throughout the entire period that you mentioned. I think that statement is true with reference to the time prior to the beginning of the European war in 1914. I think there has been a general upward tendency, but it has been more marked the last few years. I do not think that the increases in prices in the last few years have been due entirely to the world war which we have gone through. I think there has been a general upward trend. I think without the war prices would have gone up. I think the war has had its effect. I don't think there is any question about that, but the war closed with the Armistice practically and yet prices have continued to go up.

From the study and investigation which I have made with reference to prices I would not expect any appreciable reduction in prices of materials during my construction period. As I have pointed out, practically every dollar's worth of material that goes into this plant

would have to be bought within six or eight months from the date that you decided to build the plant in order to get the material to build the plant within the three year period. Disregarding the fact that you would have to purchase the material within the next six months, I don't see any indication that there will be any appreciable reduction in prices of materials in the next four or five years, in fact, I see indications to the contrary. Everything you pick up, every

daily newspaper, is filled with demands for increased wages. 2940 I noticed an article in the Associated Press yesterday morning where the trainmen were asking for an increase of 44% and and 30%. I think the average is probably around 38%. There is not a newspaper you pick up that people are not asking for more money. I believe some of the city employees here are asking for increases; the school teachers are asking for increases, and the labor situation is such that they are in better situation to get these increases than ever before. I have not overlooked the policemen in Houston; the policemen are very much interested. Just follow the daily newspapers, some of the articles on labor; here is the Houston Post of January 26th, "Hearing between trainmen and Hines postponed. Passenger train men now getting \$4.00 a day are asking for \$5.77; a 44% increase; through train men now getting \$4.08, asking for \$5.88, 44% increase; local freight trainmen now getting \$4.48 are asking for \$6.28, a 40% increase; yard foremen now getting \$5.33 asking for \$7.20 or a 35% increase; yard helper now getting \$5.00, asking for \$6.90, a 30% increase, a switch tender now getting \$4.00 asking for \$5.90, a 47½% increase.

As to the effect that high labor schedules have on the prices of materials, I should figure, that probably out of material that goes into the telephone plant somewhere around 60% is represented by labor manufacturers and 40% is represented by raw material, and as long as we have a high wage schedule I expect no reduction in prices of materials. Take for instance, switchboard cable, which is copper cable, and a change in the price of copper makes a very small change in the cost because the value of the silk or cotton in the insulation is the largest factor and with cotton 39 to 40 cents a pound, as it 2941 has been this fall, is the biggest factor, and on top of that comes the labor.

#### Cross-examination.

#### Questions by Mr. W. J. Howard:

I stated that \$3,800,000.00 in gross additions to this plant was spent during a certain period of time; that period covered 1910 to 1917, inclusive, and it might be interesting to say that in that period \$950,000.00 was spent for Central Office Equipment.

In the set-up I did not include the full purchase price for the Home Telephone Company, this represents just the material,—just the physical property.

In assuming here that I am going to construct a plant in a three-year period, which is quite a long time, and a big plant with several exchanges and 27,000 subscribers, I do not contend that we have to

get that plant fully completed before we could render any service at all, but you would have to get enough of your plant completed to give a service that would be of some use to your subscribers, so as to give a comprehensive service to your subscribers, in other words, there would be no use to connect up ten, one hundred or a thousand stations, as a matter of fact, the economical plan would be to go ahead, if you were going to rebuild this plant and built it as soon as  
2942 soon as you could conveniently and that period seems to be, from studies I have made, about three years, and you would have everything in there then, except your subscriber's stations. During the time that you were installing your switchboard you would also be building your outside plant.

"Q. Then when you get your switchboard in, and had your building built, and your switchboards in, you would have considerable cable laid out, and a good deal of wires and construction done for quite a distance out, and there would be no objection to your connecting up a good many subscribers as soon as your switchboard was installed?"

"A. Well, you would not have your entire plant probably in shape to connect up very many subscribers, and to do your work you would have to educate all your operators and people."

It could not be handled contemporaneously with your building in some places; you do not have to get your switchboards to educate them up; you can put your school in so that you could do it. You might put in a school board. It is to measure this thing about like this: I have divided the period up into quarters, and during the first quarter there would be nothing to operate; on the amount purchased during the second quarter 10% of the full plant would be built; 14% of the underground conduit would be built; during the second quarter 10% of the Preston building would be built; during the third quarter 25% of the pole line, making 35% would be finished, and we have in our exhibit a complete set up showing just how that thing would go along. Up in the third quarter we  
2943 would get 25% of our pole line and 39% of the conduit; we would also get 10% of the Preston building. That will all appear in the appraisal as it goes along.

Direct examination.

Questions by Mr. J. D. Frank:

I have prepared an exhibit showing unit costs and material prices that I have used in connection with my appraisal.

Mr. J. D. Frank: We offer that in evidence as plaintiff's exhibit No. 37.

The exhibit offered was thereupon received in evidence, plaintiff's exhibit #37, witness C. A. Gates, and is transmitted herewith in the Exhibit File.

With reference to just how I built up my unit costs and material prices, let's take a pole for instance on page 2, the first item is a 35

foot, class B pole. The pole only is \$11.89. That is the price at Escanaba, Michigan. That is where we get the poles from. The next item is the freight on that pole from Escanaba to Houston which is at the rate of 53 cents per hundred weight plus 3% war tax. I got that rate from the Railroad Administration; that is based on a weight of 650 pounds and amounts to \$3.55, making a total of \$15.44, and to that we have added supply expense, amounting to 7%, \$1.08, making the total cost F. O. B. Houston, \$16.52.

2944 Supply expense covers the cost of handling the poles as a supply item until it is turned over to be used; covers the cost of all employees engaged in handling it in the pole yards, less shrinkage while in stock as a supply item. Including the supply expense I get \$16.52 as the cost of the pole in Houston.

As to what one of these poles cost in place, on page 7, is the labor cost based on the average cost of setting a pole in the city of Houston, using the labor costs as they were in the latter part of October, 1919; also incidentals, including teaming, distributing and other miscellaneous expense items, not covered in materials and labor being 75 cents, and being a total of \$5.85. That figure there, \$5.85, plus the total material cost of \$16.52 represents the cost of one of these poles in place, but does not include the taxes or interest during construction and other items of that kind. That is without the overhead, doesn't include the cost of engineering either. In building up the unit prices, I have not applied any overhead, but have simply included the supervision up to the actual job.

I have prepared an appraisal of this property.

Mr. J. D. Frank: We offer this in evidence as Plaintiff's exhibit #38.

The appraisal was thereupon received in evidence, marked: "Plaintiff's Exhibit 38, witness C. A. Gates," and is transmitted herewith in the Exhibit File.

2945 After I had worked out my unit costs and material prices I applied them to the quantities shown in the inventory. On the first page of my appraisal is the summary of the appraisal. The first item is the reproduction of the land, \$210,850.00; that is shown in detail on pages 6 to 9, inclusive, and 46 to 49 inclusive,—the blue prints are on pages 46 and 49 inclusive. On pages 6 to 9 I set out the values and on pages 46 to 49 are the blue prints of the various lots of land. In appraising this land I secured the estimates of two Houston real estate men, and those estimates I have included.

On page 6 is a summary of these estimates, and my estimate after considering the estimates of the two real estate men, and making inquiries about property values in the neighborhood. In fact, the values used represent my judgment after getting all available information I could about the price.

On lot No. 8, Block No. 3, Fannin Street between McGowan and Dennis, W. L. Dennis appraised this lot at \$3,500.00; W. G. Burchfield appraised it at \$4,000.00; I used \$4,000.00.

Lot No. 12, Block No. 3, on south side Dennis Avenue, 100 feet

east of Fannin used for Hadley Central Office, Mr. Dennis appraised that at \$5,000.00; Mr. Burchfield at \$3,000.00; I used \$3,000.00.

Lots Nos. 11 and 12, Block No. 247, northwest corner of 2946 Harvard and 8th, Houston Heights, used for Taylor Central Office, Mr. Dennis appraised at \$3,200.00; Mr. Burchfield at \$4,000.00; I used \$4,000.00.

Lots No. 11 and 12, Block No. 23, northeast corner Harrisburg and Yoakum, to be used for Harrisburg Central Office, Mr. Dennis appraised at \$4,000.00; Mr. Burchfield appraised at \$4,500.00; I used \$4,000.00.

Lots 1 and 2, and half of lot 12, Block 650, southeast corner Texas Avenue and Roberts Street, used for storage purposes, Mr. Dennis used \$3,350.00; Mr. Burchfield, \$3,000.00; I used \$3,350.00.

Lots 1 and 2, half of lot 3, half of lot 11, Block 70, southwest corner Capitol Avenue and San Jacinto Street, used for Preston Central Office, Mr. Dennis' appraisal of \$185,000.00, Mr. Burchfield, \$200,000.00; I used \$192,500.00. That figure of \$192,500.00 is the mean between the two estimates.

My next item of material is buildings, \$535,081.00. On page 10 is a summary made up as follows: page 10 shows the Preston building, \$394,212.00; the Hadley building, \$75,857.00; the Taylor building at \$39,551.00, a total of \$509,620.00 to which has been added 5% for Architect's fees making a total \$535,081.00. I show the details on that. On page 11 is a letter from A. W. Allen, General Superintendent of Fred A. Jones, transmitting the estimates. That is, I had the Fred A. Jones Company make an estimate of what it would cost to reproduce those buildings. I selected the Fred 2947 A. Jones Company, because the Fred A. Jones Company built the Preston building and built the Taylor building, and I found that they had in their files the original quantities that went into those buildings, and I thought they would be better able to make a fair estimate than anybody else.

Mr. Duls: If the Court please, Mr. Allen here is our next witness; Capt. Allen is head superintendent of the Fred A. Jones Building Company of Dallas. We have asked Mr. Allen to come down to Houston for three reasons: First, when Mr. Hoag was on the stand, counsel for the City,—I think it was Mr. Howard—intimated that he had used the figures of the American Construction Company on the Preston Building as the highest reproduction figures that he could obtain, and that he did not ask the people who actually constructed the building for their estimate and use that. Now, the Fred A. Jones people built the Preston building, and we have asked them to give us their best judgment as to what it would cost to build or reconstruct that building today, and Mr. Allen will tell us about that. Now, the second reason we have asked him to come down to Houston is so that Your Honor may have the opinion of the people who actually constructed the two buildings which the company uses here in Houston—the Preston building and the Taylor building—as to what they think it would cost to reproduce the building, if they were going to construct it today; and then also offer their estimate

as to the third building which the company owns here, but  
2948 which they did not construct, based on the plans and specifications which were used in the actual building of that building. And the third reason, of course, is because Mr. Gates has used the estimate which the company with which Mr. Allen is associated has made in his appraisal, and we wanted to give your Honor and counsel for the City an opportunity to ask him any questions in reference to these estimates that you might have.

The Master: Mr. Allen, you may be sworn.

ARTHUR W. ALLEN, a witness for the complainant, after being duly sworn, testified as follows:

Direct examination.

Questions by Mr. William H. Duls:

My name is Arthur W. Allen; at the present time I live in Dallas, but I travel a good deal, so I have no fixed place that I claim as a residence. My business is that of Superintendent of construction and estimating and I am connected with the Fred A. Jones Company who have their headquarters in Dallas. They do all kinds of commercial buildings, industrial buildings, and occasionally some dwelling houses of high grades. Their operations are confined  
2949 to Texas. The position I occupy is that of General Superintendent and Estimator.

With reference to my duties as Estimator for the Fred A. Jones people, when plans and specifications are secured we make the survey of all quantities and tabulate them and then add the current prices for labor and material to them, making up the complete estimate. Our purpose in making these estimates is to arrive at a very close cost on the work contemplated. We make them for the purpose of bidding on the work and securing new contracts.

"Q. I wish you would tell the court what training and experience you have had that enables you to qualify in making these estimates?"

"A. I started out and learned the carpenter's trade——

Mr. Howard: There is no use going into all that detail and encumbering this record. We will just admit that Mr. Allen has had experience enough to understand his profession.

Mr. Duls: You admit that he is qualified then to testify as to what it would cost to reproduce these buildings?

Mr. Howard: Yes—we don't admit it, we assume he is a man that is qualified, his position would indicate that.

Mr. Duls: All right then.

I am somewhat familiar with the telephone buildings, which the Southwestern Telegraph and Telephone Company owns here in Houston; I am very familiar with the Preston Building; the  
2950 others in a general way only. Our company constructed the Preston building and also the Taylor building.



I have made an estimate of what it would cost to construct the Preston building today.

The figure which I finally arrived at for the Preston building, the cost of constructing it was \$329,023.00. That figure does not include the heating and plumbing and wiring and the other matters; it includes only what we do as general contract,—general work of construction.

I have made a similar estimate as to the Taylor building and the figure I arrived at for that building was \$34,622.00.

I have also made an estimate of reproducing the Hadley building and the figure I arrived at for that was \$67,488.00.

These figures do not include any architect's fees, and in making these estimates I went about it in exactly the same way that I would if I were going to bid on a job. I could say that it took me at least four days to make the estimate on the Preston building; on that particular building we were fortunate in having all of our revised quantities that we used at the time the building was built to refer to. We had the same thing on the Taylor, but on the Hadley they were made from plans and specifications only. We have those figures in our office in Dallas and they could be checked by the City at any time.

2951 The estimate of the Preston building was made about November 15th, and that of the Hadley and Taylor about December 1st, 1919.

If we were bidding on this job to-day we would not accept the contract on the figures I have made without checking them through very materially, because there has been a very material rise in material prices since they were made, on all material,—in fact, labor and material. I absolutely do not see any prospect of the price of material going down. There is no reason to expect that the price of labor will go down.

As a contractor engaged in the contracting business I have only in one case known wages to take a general decline; the panic in California,—when the 1907 panic hit there, why, labor practically ceased, and then the labor unions would work for whatever they could get for the time being; that is the only case. I mean that it takes a panic or an absolute cessation of demand for mechanics.

"Q. Yes? Well, now, in making them up, what did you finally use as a check on the figures which you have arrived at?"

"A. We—from our past experience, we are always armed with what we call cubic foot prices, by referring back to some building we have on record cubic foot prices we have used, and we accordingly check the building in hand at the time by some previous prices."

To-day the first class buildings are running from 60 to 65 cents a cubic foot.

2952 I have made an estimate of what it would cost to reproduce these three central office buildings here on a cubic foot basis. The figure I arrived at on the completed Preston building, which takes into consideration, the heating, wiring, plumbing, and everything that would make it a completed building is, \$394,212.00; that on the cubic foot basis is 62.7 cents. The same figure on the

Hadley building is \$75,857.00; the cubic foot basis on that is 54.2 cents; the Taylor building is \$39,551.00 and that is 56½ cents a cubic foot.

As to whether or not telephone buildings require a certain amount of better constructions than ordinary buildings, I will say the Preston building is built with the intention, or with the floor loads calculated on the basis of 75 pounds to the square foot for the first floor and 150 for all the floors above, just double the average floor load,—in other words, these floors are designed to carry double the load of ordinary office buildings. They are built from the standpoint that the construction has to be a great deal better built than an ordinary business building, much heavier in construction—steel, and in the footings.

Mr. Duls: Your Honor, I might just state, to clear up that first point, that Mr. Hoag's estimate was \$394,560.00 as the record shows and Mr. Allen testifies that the figure at which they would reproduce the building is \$329,023.00. That is all.

Cross-examination.

Questions by Mr. W. J. Howard:

2953 When contractors are figuring on buildings where they have in view the construction of a building on a building of this size, they often vary very considerably; there is a variation.

It is the custom for constructions companies to enter into a written contract to construct a building, a contract of some sort, and offer if they are not very responsible, they are required to give bond.

"Q. I do not know whether that is your custom or not. Now, if you were to build a building like the Preston building and you applied to your company and got this figure, at \$329,023.00, and another reputable and responsible building company agreed to build it for less figures, agreed to build it for \$35,000.00 less, which bid would accept?"

"A. If I was the telephone company, do you mean?"

"Q. No, sir, if you were the owner?"

"A. If I was the owner?"

"Q. Yes, sir, if you were the owner?"

"A. I would weigh that low bid very carefully at the present time."

If we are building it by a reputable construction company that will give bond for the building of it, if the man that was low had the commercial rating and backing and standing in the building world, and was building it on the lump sum basis, I should surely use the low bid.

Our company built this building and I can tell you approximately the cost of that building, what we built it for, I can tell you the bid, I believe; it was \$149,900.00 and something. That is comparable to \$329,023.00 that I suggested just now.

## Questions by the Master:

The inside timber in this building was all quartered oak. I think that the lumber market will continue to rise. I do not think the lumber market is out of proportion with other things, not in the least.

## Redirect examination.

## Questions by Mr. Wm. H. Duls:

I think prices will continue to rise because there is a big domestic demand all over the country and lumber—there has been no steady improvement of it for the last year—for instance, we get a price to-day, but if we figure a job two weeks from today and use those same prices, we are several dollars out of the way, sometimes several dollars a thousand even; just as a sample, I will state that the big door manufacturers today are the Payne Lumber Company, the Brown, the American and those people,—will not accept orders for doors—those are panel doors, similar to what they are in the telephone building, and guarantee any delivery, neither will they make a price upon them, and if you place an order you may get those doors, say in seven or eight months, nothing under that, and at prices current at the day of delivery. That is the condition of the building business today.

2955 I absolutely would not take a job constructing a building like the Preston building on a lump sum basis. The basis I would take it on would be a fixed fee, or on a commission basis, that is, a cost-plus basis; we might use that cost-plus on a sliding scale, but it absolutely would not be on a lump sum basis.

A "sliding scale" basis means that we state prices in the first place based on estimate, and for every dollar we saved we would draw a certain per cent on that, which would be added to the fee; for every dollar over that we would lose a certain per cent of it down to the limit; in other words, we should have a fixed fee we would get, and then the sliding scale would increase that fee or diminish it down to that as the building was built, more or less, than the estimate.

## Recross-examination.

## Questions by Mr. W. J. Howard:

I say that I would not take contracts now, not on a lump sum. The fact is that this is a period that is so abnormal in building experience that you do not know what to do, and do not know how to contract yourself, or how to act and the only safe thing is to get cost plus a certain per cent. As to whether prices are going up or coming down, of course, that is a thing that absolutely rests entirely in doubt. A panic, or disorganization in the banking world  
2956 would tend to disturb these things very much; might cause a great drop in all things.

"Q. Did you read, Mr. Allen, here a few days ago, when the report

of—I don't know just what, you may recollect it better than I do—how some commission was sent over by the government to Europe, and came back with some report, and predicted a very dreary outlook for our financial—or radical changes in our manner of financing within a short time?"

"A. I noted that there was such a report, yes, sir."

A thing like that that would upset things to a great extent might affect a rise or decline of material. At the present time, though, as we experienced in Dallas and many other cities in the North around the manufacturing centers, there is a great shortage of houses. It is possible that that is due to some extent to the known cause that for two years practically all building and construction in that regard or of that nature was suspended, but there was a shortage of houses before that; there was some shortage of houses but it has been very marked since then. It is possible that that shortage could be caught up with by overbuilding if you could get material and labor to do it. There is another thing is our vision of the future and that is it is a possibility that to a great extent immigration will be restricted and the probability is now that it will be very much less in the future. In our northern cities, though, we have been up against the housing problem for at least five years, and school house work, and absolutely required public educational buildings we have been short on. Other materials, such as brick and cement are not coming in as yet so as to decrease the cost of building. For instance, 2957 at one time before the war we were commencing to use sheet metal for forms and that was replacing lumber; but at the present time sheet metal has increased so much in the way of prices, with the high price of lumber prevailing there is very little difference. Another thing I have noticed is in oil circles, there is a very great feeling of uncertainty as to what is going to happen as to the shipping of oil and gasoline.

"Q. It has even been predicted that gasoline is likely to go up to fifty cents a gallon. Now, anything like that would have a direct effect on the building of automobiles and would stop this building of garages over the country,—that is another thing that would affect the demand?"

"A. Possibly, but the big business people in the country, the big men that claim to be authority, are looking for a period of industrial building five years ahead, laying their plans for that."

That is, unless something unusual happens to intervene, to unsettle it.

Redirect examination.

Questions by Mr. Wm. H. Duls:

Outside of panics and those other things that Mr. Howard suggested, I do not see any reason for a decline in prices; the supply of material and labor is now way under the demand. I mean to tell the Court and Mr. Howard that this rise will last five years longer, and it will surely last beyond the construction of the 2958 building.

## Recross-examination.

## Questions by Mr. W. J. Howard:

Well, of course, we get no lumber except a very high grade of wood, like mahogany and teak wood and some others outside of this country, but what is grown upon our own soil. We export some lumber. I understand there is quite a bit of lumber in Russia, but they are way behind in their methods of lumbering, and in their present condition they are not doing any lumbering to speak of. But those are things, as the demand grows, we seek out, and there is a possibility that we might draw on Russia in the dim future.

We are only a year out of the war, and when the people in Europe get settled and comparative order is restored, production, I suppose, would then be restored in the European countries. That would release the supply to a great extent, this demand, there is just that pressure upon it, and it is seeking an outlet in labor saving devices, but in Dallas this year we have been building two or three buildings and there never has been a time when one of our jobs has been properly manned on account of the scarcity of labor.

## Redirect examination.

## Questions by Mr. Wm. H. Duls:

2959 Building permits in Texas are on the increase; I could not tell you just what per cent, but they are increasing. That same fact is true of the whole United States as a whole, but it might not be in some section where there is not normal growth,—some small section.

## Recross-examination.

## Questions by Mr. W. J. Howard:

As to whether or not that comparison is based on the years 1917 and 1918, or on the years prior to the war, I thought we could be safe to say that you could base it on the most prosperous year and there would be more building in value. During the war for a period of two years the building permits in the United States went down way low. I would say that for the State of Texas that increase will bring them up to or above the normal issue of permits prior to the war,—building permits have increased exceedingly but never even compared with what you are having at the present time. I do not know about Houston, but I do know that Dallas and Ft. Worth are way ahead of any record. The demand for office buildings rose from 60 cents square measure to \$2.50 in Dallas. The conditions in Wichita and Burkburnett are liable to drop down, I should imagine.

## Questions by the Master:

2960 I think the increase in building permits usually go on values,—that is, cost of building. I should say that in Dallas they are doing more actual physical building now than they did during the prosperous years before the war. I am familiar with that, right now it is ahead of anything that she has ever had in her record for buildings that are actually under permit. I say that is the general condition over Texas so far as I know and I can say that of Ft. Worth.

## Recross-examination (continued).

## Questions by Mr. W. J. Howard:

That is somewhat directly affected by the oil, but still there is a great deal of what you call natural prosperity; industrial increase in buildings, regular legitimate industrial work.

Besides this domestic demand that I speak of there is a demand also in foreign countries for lumber and building materials. The war destroyed a great many forests in Europe, and the people have got to rebuild their homes and houses in Europe and that creates more demand for these building materials. My company buys quite a great deal of steel. I don't think the steel corporation would accept orders on two years' basis; I think the only way they would accept them, they would take the order, that is, if some of them could not be billed directly, they would take the order subject to such deliveries as they could make, the prices to be current  
2961 at the date of delivery.

Mr. C. A. GATES, a witness for complainant, resumed the stand and testified as follows:

## Direct examination.

## Questions by Mr. J. D. Frank:

I have heard the testimony of Mr. Allen and have adopted the estimate made by the Fred A. Jones Company as to the cost of reproducing these buildings. The figure which I get for the cost of reproducing the buildings in Houston is \$531,081.00.

## Cross-examination.

## Questions by Mr. W. J. Howard:

I regard the American Construction Company as a reputable and responsible construction company, as far as I know; I do not know very much about them. I do not know who the management is today, haven't had occasion to investigate the matter. If

2962 I could get a reputable company to put it up for \$35,000.00, \$45,000.00 or \$40,000.00 less than those figures I would con-



sider all the circumstances surrounding it. Assuming they are a reputable company, absolutely responsible and would give a bond to put it up, I certainly would adopt the lowest bid, everything considered.

Redirect examination.

Questions by Mr. J. D. Frank:

The next item on page 1 of my summary is Distributing System. I have included as the cost of reproducing the distributing system, \$2,577,511.00. The detail of that is shown on pages 52 to 79 inclusive. The summary of the distributing system appears on page 51.

The first item in my summary of the distributing system on page 51 is poles, amounting to \$321,331.69. That is shown on pages 52 to 55 inclusive. There are seventeen thousand, two hundred and fifty-eight poles in the plant. I have in there an item of labor and incidentals amounting to \$5.88 a pole, which applied to the total number of poles, makes \$100,959.30.

Just below that I have a heading "Miscellaneous Street Costs" which is, first, poles set in private property, \$2.00 a pole, there were 897 poles. It very frequently occurs, especially in Houston where there are very few alleys, if any, in the residence section, at least, it is necessary to set a distributing pole on private property. It always costs more money to put that pole in there, because 2963 of lifting it over the fences, moving shrubbery, replacing lawns, difficulties in raising the pole because of the fact that it has to be set along side of buildings. Our experience over a period of two years, with the advanced price of labor, is that the cost would be at least \$2.00, probably more.

The next item is poles set in cement walks. There are 69 in the plant. I have estimated that we can replace that walk for twenty cents a square foot, I have estimated that we have to replace nine square feet of walk for each pole, or \$1.80, making a total of \$124.20. Poles cribbed with concrete 2 at \$12.79,—\$25.58.

There are 7354 poles that are painted at a cost of \$1.99 each, or \$14,634.46. There are 15,505 poles that have the butts treated at a cost of 94 cents each, making a total cost for the treatment of \$14,574.70. This brings the total cost of the exchange pole line, poles only in place, of \$321,333.59, which I have carried into the summary on page 51.

The next item is Exchange Pole Line Accessories; the detail appears on pages 56 and 57. The total of these items is \$86,111.71, which is carried into the summary on page 51.

Some of those Exchange Pole Line Accessories are cross arms on page 56, and an item of 12 pin fir cross arms of which there are 151, at the unit price of \$6.44, making a total of \$972.44. There are anchor guys at the bottom of the same page, 6,000 pound strand guys, 867 at \$3.57 each,—\$3,095.19. I carried all of my pole line accessories over to page 51, \$86,111.71.

2964 The next item is Exchange Aerial Cable, the detail on pages 58 to 61 inclusive. At the bottom of page 58 there are 22 guage cable, type AA lead tin sheet, ten pair, 4,443 feet at 10.27 cents per foot, \$456.30.

Under the head of Exchange Aerial Cable I have some other item of material other than the cable itself. On page 59 there are pipe and underground dips, galvanized iron. One or two of the other items are, the labor of placing the cable on messenger, \$55,264 feet, at 12.8 cents per foot, amount to \$122,273.79. It is on page 59, Labor and Incidentals. Labor and Incidentals on cable and dips of which there is 35,230 feet at 22.5 cents per foot,—\$7,926.75. All of the several items that I have enumerated in connection with the construction of the Exchange Aerial Cable. Total on bottom of page 61 is \$648,518.05, carried in the summary on page 51.

My next item of the distributing system is Exchange Aerial Wire; the detail is shown on page 62. That is open wire work. The first item is No. 14 iron wire, 31,580 spans of wire, amounting to 681.84 miles, at a cost in place of \$34.52, or a total cost in place of \$23,537.12. I get as the total cost of Exchange Aerial Wire Lines, \$93,480.38, and that appears at the bottom of page 62, is carried into the summary on page 51.

The next item of the distributing system is Exchange Aerial Wire Drops; the detail appears on page 63. The total figure is 2965 \$52,503.74, and that is carried into the summary on page 51.

The next item is Exchange Underground Conduit Main; the detail is on pages 64 to 67 inclusive. On page 64, the fifth item which is duct vitrified and clay malleable tile in complete concrete encasement; of that particular type of conduit there is 25,482 trench feet, at a cost in place of \$2.28 per trench foot, or a total of \$58,098.96 for all of that in place. I show the amount of Exchange Underground Conduit Main on page 67, \$593,051.57; it is carried in the summary on page 51.

I have an item of "Cutting and Restoring Paving." I have not included anything for cutting and restoring paving where that paving did not exist at the time we built the underground work.

My next item is Exchange Underground Conduit Subsidiary. I show that in detail on pages 68 and 69. As the final figure for the total Exchange Underground Conduit Subsidiary I get \$78,227.53. I have figured out the cost of the various kinds of paving that we would have to replace in restoring that property. The final figure of my Exchange Underground Conduit Subsidiary is shown on page 51.

The next item in my distributing plant is Exchange Underground Cable Main, detail on pages 70 to 72 inclusive. I first set out the various kinds of cable and then have Miscellaneous Material that goes along with that cable; that is all included in the unit cost—that is miscellaneous material. The final figure on 2966 that appears on page 72, is \$555,610.72 and is carried into my summary on page 51.

The next item is Exchange Underground Cable Subsidiary, pages

73 to 76 inclusive on which pages the details of that are shown, and as the final figure on that I get \$107,588.39, which I carried into my summary on page 51.

My next item is Exchange Underground Cable, House Cable, of which the detail is on pages 77 to 78. I get a total of \$14,219.44, which is carried into the summary on page 51.

The last item that I have in my distributing system is Exchange Right of Way; the detail is on page 79. That item of expense in connection with the distributing system covers permit fees, labor, and all other expenses involved in securing right of way,—first, locating 16,361 poles and 1830 anchors on public streets and alleys; second, for opening streets to place 233,958 trench feet of conduit, and 22,080 trench feet of underground dip pipes; third, for placing 897 poles and 235 anchors on private property; fourth, for placing 13,286 trench feet of conduit and 4,479 trench feet of underground pipes on private property; fifth, for placing 26,915 feet of block cable and 98,910 feet of block wire on privately owned buildings; sixth, for placing 15,126 feet of house cable in privately owned buildings,—a total of \$26,867.28, which I have carried into the summary on page 51. I have made an estimate of what these various items would cost for doing that particular work. The expense in connection with right of way matters is not charged  
2967 to operating expenses. It is a capital expenditure and I know from my experience in the telephone business that it does cost money to secure this right of way.

With reference to the majority of items of materials that are used in connection with the telephone business, the Southwestern Telegraph and Telephone Company does not buy them in any other manner than on the wholesale basis; carload lots are considered wholesale quantities. If you would buy, for example, ten car load lots of poles, you would not get your material any cheaper than you would if you would just purchase one car load lot. The best prices you can get is in car load lots. The prices which I have studied here were on wholesale quantities and those are the prices which I applied in making my appraisal of this property.

Recross-examination.

Questions by Mr. W. J. Howard:

I do not know whether or not the American Telegraph and Telephone Company has any control over the company that furnishes the poles. I do not know that I have ever heard anything about that, but if I did, it would be purely hearsay; I do not know anything about it.

Direct examination.

Questions by Mr. J. D. Frank:

2968 The total figure on page 51 under my summary of Distributing System is the figure that I carried into my summary appraisal on page 51.

The next item of material on page 1 under summary of appraisal is Central Office Equipment. I have included there as the cost of reproducing that part of the property, \$1,242,514.00. In appraising that particular part of the property I asked the Western Electric Company, who manufactured that apparatus, to make me a price on reproducing that property; an inventory was sent them and they made their estimate on that statement. I did not ask any other manufacturing company to make an estimate on what it would cost to reproduce that part of the plant, because there is no other company that I know of that manufactures the same class or character of equipment, or that could replace that equipment.

#### Cross-examination.

##### Questions by Mr. W. J. Howard:

I say I got these figures from the Western Electric Company; on page 81 is a copy of their proposition. They are the only people who manufacture that particular equipment.

I have analyzed the labor cost of the Central Office Equipment, but not recently. I do not know what part or what proportion the labor of that manufacture bears to the selling part, that is, the labor cost of the manufacture bears to the selling cost 2969 of the product, but it perhaps runs from 60 to 70. I am using these figures I have in mind in days gone by, that that is not positive, absolutely certain. They have increased considerably in later years, that is, the prices of equipment,—they have increased considerably in later years.

#### Direct examination.

##### Questions by Mr. J. D. Frank:

Prices of all other equipments have increased considerably in the last few years.

The next item of material is Station Equipment and that is shown in my appraisal on pages 101 to 124 inclusive. I have a summary of the station equipment on page 101 and the first item under station equipment is station apparatus, details on page 102.

That station apparatus consist of subscribers' sets, protectors, pay stations, and miscellaneous equipment that goes with them, amounting to \$195,140.15. It appears in the summary on page 101.

The next item is Station Installations and the details are shown on page 103. Station installations include the wiring, the labor, the incidentals, in placing subscribers' stations. I have figured out the cost of the material and labor of making each one of 2970 those installations and have then applied that to the whole installations; that was the average cost which appears in the unit cost. The total of that is \$108,334.33, which is carried into the summary on page 101.

The next item of station equipment is Interior block wires, details

on page 104. Block wires are not wires that are run into the houses; these are the wires that are run at the back of the business blocks, or the rears of the buildings, and are used to connect between the cable terminals and the subscribers' station. I have included under this heading the miscellaneous material that goes along with that, and labor and incidentals.

I get as the total figure for plumbing, \$95,026.10, which is carried into the summary on page 101.

The next item in my station equipment is Private Branch Exchanges. The summary of private branch exchanges is on page 105 and the detail follows on pages 106 to 123, inclusive. Those are the various private branch exchanges that we have located in the big business houses in Houston, and where there are larger ones they are shown in detail. My total figure for private branch exchanges is \$62,252.52, and I carry that into my summary on page 101.

The last item of station equipment is Booths and special fittings; details are shown on page 124, and I get as the total cost in the placing of that equipment, \$3,668.25, and have included that on page 101.

2971 On page 101 I get as the total figure for my station equipment \$378,921.15, and that, in turn, is carried into the summary on page one.

I have not included in my appraisal any transmitters, receivers, or induction coils; those are the property of the American Telegraph and Telephone Company.

Cross-examination.

Questions by Mr. W. J. Howard:

I also got those prices from the Western Electric Company, the prices on the apparatus; they are the prices that we paid for apparatus and for material the first nine months of 1919.

Direct examination.

Questions by Mr. J. D. Frank:

The part of the property that I have been considering up to this time is the physical property only. I have not included all of the physical property in that. I have given you an estimate of the cost of reproducing the physical properties, other than the furniture and fixtures, tools and store equipment, stable and garage equipment, not including any taxes or interest during the construction. The total figure for my land, buildings, distributing system, central office equipment, and station equipment is \$4,944,877.00.

2972 The next item I have here is Contingencies and Omissions of three per cent; that is, three per cent of the total cost of the physical property enumerated above.

"Q. And you worked out that three per cent with reference to the amount of contingencies and omissions, which would appear in the various items going into the plant?"

"A. I don't understand that question."

"Q. Well, have you used a weighted average or have you worked out the amount of contingencies and omissions that you have on distributing system, say, for instance, and the amount that you have on central office equipment?"

"A. I would use the weighted average."

You would have contingencies and omissions with land. As an illustration, in the case of the land that we bought on Fannin Street on which our Hadley building is erected, we had an item which does not appear to-day when we go to value that land; at the time that land was purchased the title was examined, was approved by our attorneys and the land bought. I think that was approved by Mr. D. A. Frank, but, at any rate, after we bought the land, the Bremond heirs came in and brought suit, and much against my wishes, on the recommendation of my attorneys, I paid the Bremond heirs about \$250.00, which is about eight per cent, I guess, on that land, as I remember it, that is, over and above the cost of the land; I had that to pay.

2973 That was on account of defect in title that did not appear on the record as shown by the abstract, and my attorney gave me an opinion on the abstract and wrote a letter.

With reference to other contingencies in connection with land, I have two in mind today that occurred in the last two or three years in this state where I did lose land. In one instance, I contracted for the land, was told there were no restrictions, and while I had the contract so drawn that I would be relieved if there were any restrictions that prohibited the building of a telephone exchange, I did not have to buy the land, I did lose a considerable amount of money because it was just at a time when it was necessary to build an exchange quickly and I had my plans started as soon as I got the contract signed; then when the second attorney got through with it, I found that there were restrictions that could not be removed and I couldn't build the building on that lot, and I had to go through the whole thing again and get a second lot. At that particular location, there were but very few lots that could be used for business purposes, and I dare say that if we knew exactly what the change meant to us, that it would represent thirty per cent of the amount that we paid for the lot in trying to locate a lot free from restrictions. There is another instance where I purchased a lot, was about to build a building on it and the State of Texas desired the land for a park, and I had to give it up and buy another lot. I still have the land, the State of Texas has not bought it. We did not dare build on it and I cannot sell it to anybody else

2974 because we do not know when they will come along and condemn it, anytime, we don't know what day. That is in Austin, the capitol of the State.

With reference to other contingencies in connection with land besides the illustrations I have made, in the prices I have used in Houston I have not considered commissions of real estate men. We have never bought a piece of land yet that we did not pay directly



or indirectly, a real estate commission, and I think that probably three to five per cent,—I do not know just what your real estate men exactly would charge you, I believe I have got something on that right here. (Referring to paper), your real estate men would charge you five per cent,—I guess I haven't got it either; they would charge you five per cent on small sales at least, and on large sales, I do not know; they used to charge five per cent for the first eight thousand dollars and two and a half per cent above in Dallas. They charge you five per cent straight now and nothing has been considered on that. I have nothing else to say in reference to omissions, in connection with land.

With reference to our Preston lot over here I have not included everything that is on that lot; we have not included the driveways, curbs, sidewalks or the cement washing stands by the side of the Preston building where we wash automobiles, nor do I include this garage over here on the Preston building. That has not been included, and neither were the warehouse buildings on the lot at the corner of Texas Avenue and Roberts Street; neither is the stable on the Taylor lot.

Those are illustrations of contingencies and omissions  
2975 which you do have in connection with land and buildings.

Now, we have another very apt illustration of things that are liable to be overlooked in estimating the reproduction costs in buildings. In San Antonio I made a contract in 1910 for the erection of a three story building on Travis Street, which was to cost about \$50,000.00. The contract was taken in a lump sum. The footings for the foundation were distinctly specified, they were based on test bearings that we had made by men who were considered competent engineers and architects, but when we got down to the footings, we found there a condition that had not been foreseen by those men, and it was necessary to put in 340 pieces of piling. When we got to driving the piling, we found we were on the edge of an old creek or shelving of limestone formation, the piling would slip and drive off, and the added expense to the telephone company, independent of the \$50,000.00 contract, was a little over \$12,000.00, or in the neighborhood of twenty-five per cent of the cost of the building. Now, that is something that would undoubtedly be omitted by any engineer who went there to investigate and value that building, unless we could get into it and find out what the history of the thing was. In many cases we have had buildings where the contractors have defaulted and we have had to take over the buildings and finish them. You are usually protected by a bond under those circumstances, but there are many cases where the bond does not cover it, and many cases where the bond perhaps only covers a part of it.

2976 My contingencies and omissions in this case in dollars and cents amount to \$148,345.00. I have added that to the cost of the physical property enumerated above, and as the total cost of that physical property, including contingencies and omissions I get \$5,093,223.00.

## Cross-examination.

## Questions by Mr. W. J. Howard:

With reference as to whether or not I am trying to justify the contingency of three per cent on land and buildings,—three per cent is the weighted average on the whole property. As to whether or not I am trying to justify three per cent on the land, I think that there is,—I think you will probably have, taking the thing as a whole, you will find that would not make it if you went out and looked at it. You do not have any compensating elements that might tend to wipe out that three per cent. The telephone company, as far as I know, has never bought any land in Houston for less than it is worth. We are not claiming a pretty nice profit on the land we bought in Houston; we cannot take that property.

Here in Houston we paid for the Preston lot \$110,000.00 in about 1910. I have it set up here now for practically \$192,000.00.

"Q. \$192,000.00, a profit of \$87,000.00 in ten years."

2977 Mr. D. A. Frank: \$82,000.00.

"Q. \$82,000 in ten years."

Mr. Duls: That is not profit, Mr. Howard.

Mr. Howard: Well, it is increase.

Mr. Duls: Increase, but not a profit.

We cannot take the increase, we have got to use it, we cannot get away from it. Intrinsically it is worth \$192,000.00. I have just told you that we have no profit because we cannot take it and haven't any increase because we cannot take it. As to whether or not the probabilities are that we had a pretty good bargain in it when we bought it, I think you will find other property that has gone up much faster than that that right here in the City of Houston.

## Direct examination.

## Questions by Mr. J. D. Frank:

What I did was to estimate the cost of reproducing the various parts of this plant, and then I applied my contingencies and omissions to the cost of reproducing the plant. My weighted three per cent would apply to the reproduction cost of the property as a whole.

2978 The next item I have in the summary in my appraising is Engineering, four per cent, amounting to \$203,728.00, and I have taken the weighted percentage and applied that to the property as a whole. That applies to the land, buildings and all of the property going to make up the plant as a whole. It would be greater than four per cent on some parts of it and less than four per cent on others. I used four per cent because I think that is the very minimum that it could be done for; four to six per cent is the usual cost,—somewhere in between four and six. Five per cent is the figure that is generally allowed by engineers for that. Mr. Lyndon

allowed six per cent for engineering and that was in some work that he did for the City of Houston.

The next item here is General Expenses, two per cent, which in dollars and cents amount to \$105,939.00; that is expense that you would have in connection with the construction of this property if you were reproducing the plant, and is expense that the Southwestern Telegraph and Telephone Company has all the time in connection with the construction of its properties from time to time. I know that it is customary for other engineers to handle an item of that kind in arriving at the cost of construction. I take two per cent because I thought that was a minimum figure that it could be reproduced for.

#### Cross-examination.

#### Questions by Mr. W. J. Howard:

2979 As to how we would spend the money, the first item of \$105,000.00, we would have to have general supervision throughout the entire period of construction; everything that we have covered so far has been simply the actual cost of doing the work. We have a supervising engineer during the entire period of construction; only one supervising engineer.

"Q. Well, what is the four per cent engineer for, what is he going to do?"

"A. The engineer is going to build the plant?"

You need somebody to supervise these engineers that are going to build the plant, that is, a general supervisor; he would not necessarily be an engineer. He would not be an engineer, he would be an executive. The executive work he would have to do would be to supervise and direct the whole property. The engineer would not do that; the engineer is not supposed to buy the material, the engineer is the man who designs the plans. I mean you would have to have somebody who would be the executive, hire the engineer and tell him what to do; have him simply hire someone to simply superintend construction and see that he did it. We could not get the services of the Western Electric Company or the services of the American Telegraph and Telephone Company because it is not their business. They would give us any engineering advice that we might ask for, they maintain an engineering department that is continually engaged in research work and answering the questions we might want, and continually assisting us in financing the business; we couldn't finance this business at the rate we get.

2980 We could not get six per cent money. I think it is a great favor to get six per cent money under existing circumstances.

With reference as to whether or not he is going to need a building engineer, that would be only one of the duties he would have. The general expense would cover the general executive force; he would direct the construction of the plant and the business generally and it would not be "him," it would be several "hims".

"Q. How many men are you going to have of "him"—you have

got the engineers now to supervise everything and see that your foreman and everybody that knows the material that you want, and you have got a great big body of men here, engineers, as you have built it up. Now what are these overlords going to do?"

"A. You seem to have a confused idea of the duty of an engineer."

The engineer is not an executive, is not a man that tells people or goes out here and runs the business; he is going to run the plant. I assume we are going to have some money. You will have a complete organization, beginning with the manager and president of the company; the president would give his time probably for the time being to help out, merely as a good fellow, and he would have to have a general manager and the general manager would have to have his staff; would have to have his office work, would have to pass on various and sundry things; you would have to have your accounting, you haven't accounted for your accounting. It is very

2981 true that we have our incidentals here, but look at it this way; suppose a man comes down and puts six million dollars in this plant, who is going to take care of it.

"Q. Well, we have a bank here. You know, as well as I know, you have to have somebody in there to handle this money, and kind of be supervising head. But now, when you come to talk about a corps, a big organization to build one telephone plant, and you are going to take three or four years to build it, now how many men is it going to take in addition to those engineers on the field who know right where to build the plant, and when it comes down to a close approximation, how much material you are going to have, how much labor and where you are going to put the plant,—then you have got a sort of directing head. I just want to know in the spending of five or six million dollars, what great big force you are going to require besides one executive head and two or three bookkeepers."

"A. One executive head and two or three bookkeepers?"

"Q. Yes. Take that—we will allow that now. Why couldn't they handle it?"

"A. Why, Mr. Howard——"

"Q. I understand you could build up as big an organization as you want to, employ a whole lot of men, spend a whole lot of money, but tell us now just what he is going to do—you have told us he is going to buy the material?"

"A. There is not any business in this country that will go out and spend six million dollars and give it general supervision for two per cent."

2982 That is less than it cost the Southwestern Company to supervise the State of Texas this last year and supervise its construction work, that is, its general expenses is a less figure. These incidentals you are speaking of are incidentals we have found from experience, and that two per cent is less than that cost the Southwestern Company for the last several years.

Direct examination.

Questions by Mr. D. A. Frank:

In Dallas when they organized the Southwestern Telegraph and Telephone Company the plant was not as large as here in Houston. They had an organization and had a considerable force. It had a president, vice-president and general manager. The president and general manager devoted their entire time to it, and they had an organization. I did have the details of the number of people, I should judge off hand, they had something more than thirty employees in the general office, and their general expense, as I remember it, was something like sixty thousand dollars a year, and the only place they operated was the Dallas Automatic Telephone Company; the operation of that company would be for a three year basis, something like an expenditure of \$180,000.00 alone and in this estimate here I have only \$105,000.00. It is a fact that is recognized by all first class engineers that "general expense" is a legitimate item and the two per cent is very conservative.

2983 As to the character of the work done by an engineer in a plant of this kind, an engineer's business is to study the situation and the conditions, and to design the property and to recommend to the executive heads the types of property, the operating methods, that should be used, in his judgment. The ordinary engineer is incapable of even managing a telephone plant without special training. A man has to have long years of experience in order to do telephone engineering; an engineer is a specialist.

The location of this building over here on the corner of Capitol Avenue and San Jacinto Street was not accidental. We did not just put it there because we happened to have a vacant lot; that was the result of a very careful study of this city and the various buildings in it, and the telephones we had then, and the telephones that we might put in in time, even in buildings that then existed and in buildings that might be built, probably would be built in the future. We could not just as well have located that building up close to this large station that is back over here as to locate it where we did; it would have cost a great deal of money. It would have cost a great deal of money to carry your lines to it, put your conduits to it; the economical location is the one that will give you the shortest wire run, the shortest average wire run between your central office and your subscriber, and that location is usually sought. That is usually the result of long study which is known as part of the fundamental plan.

2984 The engineers who do that class of work are known as commercial engineers, and are frequently men who are versed in the construction of telephone plants to the extent that they know material, or would be capable of designing a switchboard, or laying out a central office, in other words, a man might have eminent ability as a commercial engineer and might know very little about plant engineering, and the same might be true the other way; in other words,

you would not take an ordinary plant engineer and start him out to do a commercial engineering job.

In making these fundamental plans, even with an organization such as the Southwestern Company has we do not rely entirely on our own engineers to do that kind of work; we have a commercial engineer, but we get help very frequently from the American Telephone and Telegraph Company. With reference to the kind of an organization they have with respect to doing this fundamental plan work, they have a commercial engineer, with a staff, that is working out all over the country; they have the experience of the entire telephone system. They work it out all over the United States.

The last study that was made to make a fundamental study of the Houston exchange was made here in 1915; we had a great deal of data on which to base our study; the cost at that time was something around \$5,500.00. If you were to come in here today; if you had no telephone department and started to make a study of the 2985 company, the commercial department of the Southwestern Telephone Company has estimated that it would cost about \$27,000.00 to make such a study in Houston today on the assumption that there were no telephones here. After you got through with that sort of study you would not have anything done except to determine where your subscribers are going to be and where your central office location might be located and where you might get a lot, in other words, to merely locate the lots and know where the business was going to be would cost us \$27,000.00.

When it comes to plant engineering there is nothing accidental about the location of this underground work and these poles and the laying out even of your floors and your buildings, every bit of it has to be studied. As I pointed out this morning, before the architects go to work on the building plans themselves, it is a very usual thing for us to have the engineering done on the central office apparatus, to lay out the floors, lay out the location of the apparatus and then tell the architect to build the building around. In the work that is done for the Southwestern Company in the making of these fundamental plans by these experts working for the American Telephone and Telegraph Company that work is part of the four and a half per cent, in other words, the license contract covers that.

As to whether or not your plant engineer determines the size of your poles, the size of your conduit and the size of your cross-arms and things like that; the size of the conduit is based on study 2986 made by the commercial engineer, as to where the post is going to be and how large the post is going to be and the location; the location of the conduit is determined by the plant engineer after he has located all the obstructions in the streets, or attempted to do so; it is not always possible to get the location of the pipes, water pipes, gas pipes, sewers, in the streets of a city.

The commercial engineer would tell you how much business you would have in a certain locality, or how much you could expect. We rely on our plant engineer to build a plant to carry that business. The plant engineer might go out here and lay out a plant and find he would have to change it after he got in the streets.



Supposing we had our plant built and our commercial engineer had advised us where the business would be and we had found the business where he said it would be and had our plant completed, and had our switchboard in, it would then require the services of another engineer to tell us how to operate. We have a traffic engineer.

The system of operating a big exchange like this one over here is not a mere accident; it is the result of years of study, the result of constant study, because conditions under which it is operated are constantly changing. In other words, the methods even to the manner

of handling the girls and janitors and set up of the board,  
2987 and everything like that, is constantly changing and is constantly being studied by this traffic engineer. When I have

a set up for engineering expense, the expenses that I have included covers the salaries of these engineers who are doing these various kinds of work. Those engineers engaged in that character of work do not have time to do any supervising of other employes; they cannot do anything outside of their own departments, and if they did, in the majority of cases, their own training is such that they would be unfit for supervision. We have an executive department that controls all departments, in other words, if you had a plant in the city of Houston you would have a general organization which would control the situation relative to the engineers, as well as to the accountants, as well as to operation and repairs and other things of that kind. I think that a man who had six or seven million dollars to invest would feel that his money was being thrown away if he did not have an organization to take care of it, in other words, I do not think that a six or seven million dollar plant could run itself like the soviet form of government in Russia. No man would invest much money in a thing of that kind unless he had some common knowledge of who was going to handle it and how they were going to handle it; he would certainly want an organization that was capable and efficient. The amount I have allowed here is really less than it could be done for by a capable organization; I think it is less than anything I know of. It is about \$30,000.00 a year for three years construction period, and there is not any company that handles the expenses on as low as a basis as that where they build a plant of this size or approaching it. I would not think of getting an engi-

2988 neering expert and tell him to go and build a plant and operate it and expect that he would get results. I would practically have a plant superintendent and he would have charge of the plant and be over the engineers. It is true that the fact that this man is an engineer would not mean that he was doing engineering work, but he would have to understand engineering in order to direct the engineers. To set up an organization of this kind I would probably follow the lines, if I were going to build it, of our usual organization; general manager, general superintendent of the plant, general commercial superintendent, and general traffic superintendent.

"Q. Now, Mr. Howard suggested that in order to operate a plant like this in the City of Houston, that all you would need would be a general manager and two or three bookkeepers. Could you operate it that way, Mr. Gates?"

"A. No, sir. You would want an auditor and a treasurer."

You would have to have a regular accounting set up, and for 27,000 subscribers it would take quite a little organization. I do not know how many people they have here in the accounting department. We have had to move them out of the building over here because it wasn't big enough to take care of all the employees. The building is 55 x 125 feet on the first floor and we had to move some of the employees out because we did not have any room for them. It would not require that much space for a general manager and three bookkeepers. If you had your general organization here in addition to the local organization, you would have to have still more room. The 2989 seventh floor of the building here is now used for the division officers. We have two exchanges there, Capitol and Preston. Those are operated mostly by young ladies and they have supervision; the traffic department supervises them; all of this comes back to the question of the requirements for general organization, and that general organization would be required even from the very beginning, from the construction of the walls of the building. There is no question about it in my mind.

Cross-examination.

Questions by Mr. W. J. Howard:

The organization I am talking about that we had to move out of the second floor is the accounting organization for the Houston exchange during the operation. Not during the construction period, but they would have their accounting besides, plant accounting during construction and that would require more people.

"Q. You have to look out for the traffic, have all this traffic expense, you have got of course men out starting the plant, handling the pay roll, and buying some material, you are going to keep a bigger lot of employees than in operating, all the time?"

"A. Not necessarily all the time, but what would happen is this: your organization would be greater on the plant side during construction, but it would be greater on the traffic side after you 2990 got in operation, less than on the plant."

The Commercial Engineer doesn't overhaul the plant; he studies the location of the buildings, your residences and the character of houses you have, and whether or not your people are supplied with telephone service, what telephone service you are going to have, so that when new citizens come here they will have telephones to take care of them. In the last five or six years we have made very considerable changes here. With reference to changes in service I do not know what service you are talking about. I did not tell you that the engineer was making changes. The last time to do this work we had an engineer down here two times in six months. Had one man here from the American Telephone and Telegraph Company, here for two weeks, and had two people at the general offices in Dallas one fourth of the time, two people for three months, tabulating the reports of those engineers and two people one-third of the time,—two

people all the time for three months and one-third of the time with three other people.

"Q. Now, you say your engineers brought right up with this business, been right here with it, watching its growth, that they cannot tell you about those things as well as these two A. T. T. men they brought down here?"

"A. No, I don't say our men couldn't tell us about the business."

When we are going out to spend money, Mr. Howard, we try to get the best advice we can, just like a man when sick, he gets the best doctor.

2991 "Q. I was wondering where you get all of those expressions. Now, this A. T. T. gets a nice compensation from this all over the United States, pulls down about \$40,000.00 from this plant, and then they get that same little pull down all over this territory where the Bell system operates. Now, they have got to send out some engineers once in a while to take a look at these plants, haven't they,—otherwise that would be paid out of gratitude, that \$40,000.00?"

"A. No gratitude about it, Mr. Howard."

They give more than the value received.

Direct examination.

Questions by Mr. J. D. Frank:

The last thing that we considered yesterday was general expense, \$105,939.00.

The next item of material which I have on page 1 of my summary is other equipment for central office, furniture and fixtures, details of that are shown on pages 82 to 100 inclusive and on page 82 is a summary of that by units. This property that I speak of as Other Equipment for Central Office consists of the furniture and fixtures in the operators' quarters, the cafés, retiring rooms, and schools.

2992 Pages 126 to 132, inclusive, show just what that property is and what the price is of each item of the property; the price is what the books show we paid for it. We have the original cost of all this furniture. I did not attempt to estimate the cost of reproducing that property.

The next item is taxes during construction; I have shown the details of that on page 221.

Mr. Howard: Hasn't he worked that out about like Mr. Hoag has?"

Mr. J. D. Frank: I think so. If you do not want to go into detailed explanation of it, why, I will just ask him to state how much it is.

Mr. Howard: Yes.

It is \$75,262.00. I have made due allowance for the fact that under the laws of this state you pay taxes only on such property as you owned on January 1st of any particular year, and in figuring

out the amount of taxes I get \$75,260.00, figuring the taxes of 1919 as a basis.

My next item is Interest during construction and that is shown in detail on page 222 of my appraisal. The interest rate is six per cent, it is figured by quarters, on the average plant I believe, it is for each quarter. In order to determine how much interest you would have during construction I had to make an estimate of how this money would be spent. If you will turn to page- two and three you will find a statement showing the amount spent for different purposes by quarter. As to just how that money would be spent, the first item on this statement is "land." Under figure 1, representing the first quarter, is an item of \$200,000.00; it is estimated that during the first quarter that payment would be made for land purchased. At the bottom of the page, on the line reading "Total additions to the construction of the physical plant by quarters," the total of all expenditures made during each quarter is shown. In the second quarter an additional payment of \$30,380.00 would be made on land, \$44,518.00 spent for pole lines, \$102,684.00 for conduits; \$4,404.00 for right of way; \$2,000.00 for furniture and fixtures; \$5,819.00 for tools and store equipment; \$7,153.00 for stable and garage equipment,—making a total of \$196,958.00; making a total spent during the first two quarters of \$396,958.00. That same plan is continued throughout the entire statement, so that the second line from the bottom gives you the total spent in any quarter, and the bottom line gives you the total spent up to that and including the quarter under which it appears.

On page 4 I have "Expenditures for Plant Construction during development, two years." The two years development period begins after the ending of our construction period. I have not included any taxes during the construction period in connection with this matter about which I am testifying at the present time; I have not included any taxes during the construction period. The other computation there is made in connection with the testimony which I will give concerning the cost of establishing the business. I worked out this interest during construction on page 222. The first column shows the quarters. The next total additions to construction by quarters, the next average plant I placed during that quarter, and the next column the interest for that quarter at the rate of six per cent per annum. I have taken six per cent as the rate of interest because I think that is the minimum rate that I would have to pay for money. I get as the total amount for interest during construction \$405,750.00, and I have carried that into the summary of my Appraisal on page 1.

I get \$5,995,031.00 as a total reproduction cost of the physical property, including these overhead charges and taxes and interest during progress.

As to the part of the property I have been considering up to this time, I will say I have been considering the physical property only, in other words, the bare bones of the plant and I have estimated the cost of reproducing that physical part of the plant.

The next item is cost of establishing the business, going value,

and I have included for that \$987,996.00 and show that in detail in some part of my appraisal.

Cross-examination.

Questions by Mr. W. J. Howard:

I have got a very comprehensive set up on the cost of establishing business. That is not a standard set up of the American  
2995 Tel. & Tel. Company on the question of going concern that I know of; I never saw one that they made.

I have been directing my attention to the reproduction of the telephone property here in this city, that is, what I have been talking to you about.

"Q. But the real thing you have been trying to do is to find out what the proper rate is in a telephone plant that has been in operation here a good long time, and so, of course all these things in regard to the length of time it is going to take to construct this plant, the number of subscribers you are going to get, that all necessarily is a thing that you have been drawing upon your general knowledge, you have nothing upon which to base it?"

"A. No, I do not think that is quite true."

"Q. All right, well——"

Mr. D. A. Frank (interrupting): Let him answer your question.

(By Mr. Howard:)

"Q. Was there ever anywhere at any time a telephone company completed and reproduced entirely in a city of 160,000 educated and trained to the use of the telephone service?"

"A. I did not get the first part of your question."

"Q. Has there ever — at any time that you know of a telephone company reproduced in a city of 160,000 people where there is no  
2996 other telephone office within a period of three or four years or one continuous period, without any operation of any part of the plant?"

"A. No sir, I don't know of any place under those conditions. I do know of exchanges that have been built in cities——"

"Q. (Interrupting.) But not under such conditions?"

"A. Where they have been rebuilt after the exchanges have been wiped out."

"Q. Now, Mr. Gates, I notice in this set up, you have put in nine hundred eighty-seven thousand, some dollars and some cents. Now, for the purpose of brevity, let's call it a million and save a good deal of time. I am not going over all of these figures, and now let us look at it from this angle, that it is not our purpose to go out and spend as much as we can of it, but it is our purpose to save all we can of it, and so let's see this first item; "Preliminary expert's advice on following subjects." Page 226. Now, understand, we are living in an enlightened age, where the people are trained in the use of the telephone service it has bene long tried out,

and we are going to reproduce the plant here, and want to save a million dollars, and now you say the first thing you are going to do is to pay a man and ask him can a telephone plant be made to pay, and you are going to employ an expert to do that?"

"A. You are going to have to employ an expert to answer the general questions. That isn't the only time——"

"Q. (Interrupting). You are going to employ an expert to tell you if a telephone plant can be made to pay and how many subscribers can be expected in a city that has been accustomed to 2997 telephone service, where it has been demonstrated and they have attached 27,000 subscribers, and they like the service, and who are rather partial to the use of *the use of* the telephone, so you are going to pay an expert to tell you about how many subscribers can be secured in that territory. That is the next thing that is up to him to tell you. Is that true?"

"A. Yes, that is one of the questions he would have to answer." No, I do not think a man of ordinary intelligence would be able to tell you unless he had devoted some study to the matter. In the telephone business today no man would spend his money, expend six million dollars without some sort of advice.

"Q. I did not ask you to give me any lecture upon the telephone business, but I simply asked you to answer me a few of these questions with reference to this set up. Now, you say that you would pay \$3,500.00 for certain services?"

"A. Yes, sir."

"Q. Now, you are going to pay him for asking him if a telephone plant can be made to pay and how many subscribers can be expected in a place where it has been tried out and you are going to ask him what kind of a plant shall be constructed. What do you mean by that?"

"A. What I say."

I mean to get some advice on what class of plant, whether automatic or manual, whether underground, or overhead, or what class of buildings should be erected. We have had our general 2998 expense and our surveys, but this is preliminary. We have had no preliminary expenses whatever. Then you would want to know about how much capital would be required. As to whether or not anybody could tell you right down to one hundred thousand dollars, or within a margin of one hundred thousand dollars, I will say, if he gets it within one hundred thousand dollars on six million dollars capital it would be pretty close. I do not think that I could go to most anybody in the business and that they could give me an approximation of what a plant like this would cost.

"Q. The revenue and the operating cost. Couldn't you go to any telephone plant in the country and they would give you their experience about the cost of operating telephones, and the general revenues? You could not get but an approximation any how?"

"A. You are asking me a question and then making a statement."

"Q. I am asking you if you could not go to any telephone plant, the management anywhere in the United States and if they could



not give you an approximate statement of its operating expenses and revenue?"

"A. Just what is the question you are asking me, Mr. Howard?" Just read the question. (The reporter read the question to the witness as follows: "Q. I am asking you if you could not go to any telephone plant, the management, anywhere in the United States, and if they could not give you an approximate statement of its operating expense and revenue)?"

"A. I doubt if I could, and if I could I would doubt its value."

2999 "Q. Now, on page 227, Attorney's Fee, you have the following charge: "Attorney fees for drawing charter and filing same and for legal advice during organization of six million dollar company, \$10,000.00." Now, you understand we are trying to save this money, not to spend it, and don't you know that under the laws of Texas that in order to prepare a charter it is practically as easy as writing a general warranty deed?"

"A. I am not a lawyer."

I am setting this up and stating that I will pay him \$10,000.00 and I think that a good lawyer, capable of giving you legal advice for three years, and drawing your charter, and so forth, that you would be getting him cheap at \$10,000.00. If I could get a good lawyer for that I would consider that I was getting him cheap. I would not want a lawyer to draw a charter unless he was a good lawyer.

"Q. Don't you know that all that is necessary is to furnish him a list of your subscribers and the amount that they subscribe, and then the State tells him what to do; that is, you furnish an affidavit as to the names and residences and the amount of stock subscribed, and then an affidavit as to the value, and then establish that they have paid up that much money, and then the charter is sent to Austin to the Secretary of State who then sees that you have happened to make a mistake, that he hasn't just followed the requirements prescribed and it is mailed back to him suggesting how to change it, and then you get the price, the fees, for getting the charter; and you say you would pay \$10,000.00 for that, would you?"

3000 "A. No, sir. This expense, if you will read the item, is for legal advice during the organization of a six million dollar company, and is the only legal expense in the entire set up for the entire three years."

"Q. \$10,000.00 means a lot of money to any man—I know that it means a lot of money to a lawyer—but it may not—"

Mr. Duls (interrupting): We do not draw our charters in that way, and the way you state it would be a mighty simple matter, if that's all you had to do.

Mr. Howard: The State tells you everything you have to do and even has a form prescribed for it.

(By Mr. Howard:)

"Q. Now, we are trying to save this money, as I have stated, and not to spend it, as it is not a very complicated matter to draw a charter."

"A. But we are not paying the \$10,000 simply for drawing the charter."

Well, a lawyer would have to investigate the laws of the State first, and then of some other States, to see what State we wanted to incorporate under, and then he would advise me as to the best form of organization and the best place to organize; then he is going to draw my charter; then he is going to advise me as to the contract with my trustees, or my bonds, for instance, if we issue bonds, 3001 or make a sale of stock to a trust company, he is going to pass on my contract with them; he is going to have to pass upon the franchise that I am going to get, and he may have to draw up that franchise; he is going to have to draw or pass upon the contracts for the purchase of materials. Then he will pass upon the contracts for the plant erection, the buildings, the purchase of the land,—why, Mr. Howard, in the purchase of this land alone a poor lawyer could cost me \$10,000.00. It is very true that I might *could* get one who I thought was the best and he might lose me the whole thing, but I would pay the money and try to get a good lawyer.

In the legal expenses I do not have any idea that it would be a complicated affair, but I would want a lawyer and would want to pick the man I wanted. Now, the lawyers I would have can go ahead and draw the contracts that I am going to make with perhaps fifty thousand people for service. I haven't gotten through answering this question, if you please. He is going to draw my contracts for right of way; he is going to handle any damage claims that I may have; he is going to assist in the assessment of property; he is going to represent this corporation before the city, and any city boards that they may be called before; he is going to examine and protect the title of real estate, and in that point alone might lose me more than I am going to pay him and he is going into the record of the contract with the employes regarding the compensation law of this state, and with reference to the condemnation of right of way; we may have to condemn right of way for your lines and buildings, and there are innumerable things that come 3002 up on the compensation law of this State that will have to be looked after, and a great deal of legal advice that will be necessary, and if I could secure a real good lawyer for this sum I would, as I say, consider that I was getting him very very cheap; that is, if I could get a good man who would give his services for \$3,300.00 a year for three years and give you the service you wanted.

As to when I would get the charter, I am not talking about the charter of the Southwestern Company; I am talking about the charter of this company I am setting up in business. I am not representing to you or to the Court here that I am giving you these matters with reference to this Company here, but I am setting up the reproduction cost—

I did not get out the charter for the Southwestern Telegraph and Telephone Company. I wasn't talking about the Southwestern Company; I don't know the exact date of the charter of the Southwestern Company.

My estimate doesn't refer to the cost of establishing business of the Southwestern Company.

"Q. Then as the plant was added to from year to year and there came up the necessity of legal expenses, and of all these commercial expenses that you spoke about, they, to a great extent, were also paid out of operating expenses, were they not?"

3003 "A. I do not know whether they were or not; I am not familiar with the books and accounts and cannot tell you any more than I know."

It is very true that I am the Vice-President and General Manager, but then I would have to refer to the books. I do not know anything about whether or not it is a fact that during all of this time that expenses of that character were charged to operating expense.

It is not a fact that only a part of the legal expense for getting this charter and this organization would be allocated to this plant; it does not cover a great many exchanges. I want to say to you again, Mr. Howard, that the charter that I have assumed in this reproduction appraisal applies to the company to be organized and to be operated in the city of Houston,—only the Houston exchange. I am talking entirely about this particular reproduction appraisal.

"Q. I have no objection to talking about the other, and, of course, that is also a fact that a charter was gotten and that the legal expenses for all of these different exchanges——"

"A. (Interrupting.) No, it is not a fact. The legal expenses in this appraisal refer entirely to the company to be organized to construct an exchange in the City of Houston."

"Q. I thought we had gotten by that. Now, then, the one that you are trying to fix the rate on is this plant here, the one doing business here now, is operating or existing under a certain  
3004 charter, isn't it, and that charter serves the provisions not only of this particular exchange, but numerous other exchanges throughout Texas?"

"A. That's very true."

I am talking about the cost of establishing business in the City of Houston if you were to build a new exchange here. This is under the set-up as I have supposed right along, just exactly the same proposition as for legal expenses in getting a charter and conducting the legal affairs of the company that we were to set up and not the Southwestern.

I say that in 1915, 1916, 1917 and 1918 we incurred such costs for selling service; that cost was charged to an account known as "Advertising and Canvassing,"—charged to operating expenses. That cost of establishing business which is set up here is soliciting and things like that, advertising, \$4.37 per station, that has already been paid for by the public in the way of operating expenses; you are again confusing the reproduction theory of the existing plant.

"Q. Now, Mr. Gates, I want to find out something about that very

point from you as a practical telephone man. You are telling me that when you make certain earnings here from the public and pay your operating expenses out of them, including the cost of getting your subscribers, and you have been paid for it once out of the earnings of the Company, and you are going to set up the amount again under the head of "Going Concern",—"cost of establishing business", and draw a return on that?"

"A. Mr. Howard, you are confusing the proposition, confusing the two different things. Let me explain this thing now as I see it and then I will answer your question in this way. This appraisal is based on the theory that we are going to reproduce the Exchange—this appraisal is based upon the theory that we are going to reproduce this Exchange—that there is no Exchange here. I am not referring to the subscribers that we have here, but we are starting a new Exchange. There are no subscribers, and we are starting here with the cost of establishing this business, the cost of one-half of the subscribers; that is, the subscribers that we will get during the construction period, during the period that we are not operating. During the period that we are not operating we have no operating revenue against which we can charge this as an operating expense and we must necessarily capitalize this expense at that time. We do not capitalize it after we get in operation but treat it just the same as we do today. Now, we set up this reproduction cost as a measure to measure what it would cost to get another exchange like this one today, and for no other purpose."

"Q. All right."

"A. The cost of the subscribers has not been paid for by the public nor anything of the kind. I am not referring to the subscribers we have here."

3006 Direct examination.

Questions by Mr. J. D. Frank:

With reference to the questions asked me by Counsel yesterday with reference to if it was not a fact that the cost of securing the charter had actually been charged to operating revenues. We did not have any operating revenues when we secured the charter, and would not have for several years after starting and operating the exchange. What I have done is to simply estimate the cost of reproducing the telephone business in Houston just as I estimated the cost of reproducing the physical part of the property.

Omissions and contingencies apply to the physical part of the property. As to whether or not the physical property itself has anything to do with the cost of establishing the business, I may have left out some item that we will find out afterwards in the cost of establishing the business, but I have not used the percentage for omissions and contingencies except in connection with the cost of the physical property and that has nothing to do with the cost of establishing the business.

With reference to the expense of maintenance during construction, it is a fact that you would have a large part of that property

constructed prior to the time you began operation; on the average it would be constructed for more than nine-tenths of a year 3007 in advance of operation.

I stated it would take about a year and fourteen months to construct our buildings, and that then it would take about a year after that, or a year longer, to install the switchboards. The expenses we would have in connection with the upkeep of that building while your switchboards were being installed would be the heating, lighting, water and janitor service; you would also have to have night watchmen for various parts of this property, and in fact, you would have practically all your expense that you would have after the plant was completed so far as people are concerned, and some additional, due to the fact that you would have a large number of men working on the building.

With reference to the length of time required to install those boards, some of the complicated works you have in connection with the installation of those boards are that there would be in installing the multiple alone, something upward of a million solder connections to be made; there would be a great many feet of jumper wire to be run on the inanimate frame, and those connections to be soldered. Whenever you make any physical additions to those parts, it takes several months to install the units; that is, a multiple means a multiple spliced, which means, splicing the cable run to the entire multiple; in this case there is a multiple of more than ten thousand lines, which would mean the splicing of cables containing more than thirty thousand wires.

On page 1 of my summary the next item I have under 3008 Cost of Establishing the Business is Working Capital and Building Supplies, to the amount of \$238,818.00. Working capital includes supplies that are necessary to be carried in stock and to have on hand to maintain the property, includes money required for expenses in addition to collections, payments of salaries of employes, the payments of taxes, various and sundry other expenses that enter into the operation; the cost of operation of the business, before collections are made for services rendered to the subscriber. The figure of \$238,818.00 is the figure that is required at the present time and I have taken it from the books of the company. I secured that from the accountants.

Cross-examination.

Questions by Mr. W. J. Howard:

My set up of \$238,818.00 includes supplies. We get a portion of our money in advance, but a comparatively small portion. I do not know what proportion.

Direct examination.

Questions by Mr. J. D. Frank:

I get as the total reproduction cost of the physical property, \$5,995,031.00.

3009 I have determined the per cent condition of the physical property constituting the Houston Telephone plant. I did it from a personal inspection of the property, from my knowledge of the property extending over a period of years; I made a personal inspection of a very large part of the property. I do not know any other manner in which I could determine the per cent condition of the property without inspecting it. I could not rely on the life tables.

The facts with reference to the condition of this physical property, I think this exchange is probably in better shape than any exchange that the Southwestern Company owns, and I think it is probably in as good shape as any exchange of like size anywhere in the country. I have examined telephone exchanges all over the United States, in the eastern sections of the country, and in the western sections, from the Canadian border to California, and I must say that I was surprised at the condition of this exchange when I inspected it in the last couple of months, notwithstanding the fact that I thought I knew something about it before, but I find it in a very much better condition than I really expected to find it. The per cent condition of the property as found by me is 92.98 per cent. In determining the per cent condition of the property the things that I took into consideration were rust and decay. The question of obsolescence does not enter into that. The question of obsolescence does not enter into the per cent condition of the property, or the condition of the property, because the property is not obsolete; it is here being used, and what I am seeking to determine is

3010 the condition of the property that is here and that is being used. If it were obsolete, it would be out of service.

I have not included any property in my appraisal other than the property that is used and is useful in the operation of this plant. I have excluded some as not in operation and not used or useful; I have excluded property that was not used, such as the old Taylor building out in Houston Heights. Not the old Taylor building in Houston Heights but the old Taylor building on the corner of Center and Taylor and the Houston automatic building in Houston Heights.

Page 223 contains the details of that per cent condition. On that page, on the left hand side of the page is a list of the various kinds of property; the first column shows the obsolete class of property, the present total reproduction cost for each class of the plant; the next column shows the per cent division in which I found the property; and the third and last column shows the weighted per cent condition at the time I expected it. For example, I found the land in 100 per cent condition and the buildings in 95 per cent condition. I do not think that is a rather high per cent condition for the buildings of that type considering the length of time they have been in service; I think these buildings, if anything, I think that my per cent condition is too low on the building. I could take less than \$5,000.00 and put the Preston building in as good condition



3011 as it was the day that I turned it over to the operating department to operate after I built it. I worked it out as to each part of the property and I get as the total per cent condition for all the property 92.88 per cent.

On page 1 of my Summary the figure I get as the reproduction cost new less depreciation on the property is \$5,568,185.00, and when I add to that the cost of establishing the business and working capital, the figure I get is \$6,794,999.00, which is the total reproduction cost less depreciation.

Cross-examination.

Questions by Mr. W. J. Howard:

I determined just the physical condition of the plan regardless of any inadequacy or obsolescence then existing. When I set up my depreciation reserve, I set up a reserve or unit that is intended to take care of more than the deterioration tested only by the depreciating per cent condition; I set up enough to take care of obsolescence and inadequacy. I estimate that some parts of the plant will become obsolete, but when they do become obsolete, they become obsolete all at once. It has not been figured though upon the basis as if they had not accrued by percentage through the year. It is figured on the basis that we know that some of these things do become obsolete, but when they do become obsolete they go  
3012 all at once; like right of way, for instance, if we abandon a piece of right of way it is absolutely obsolete, we have lost it, we have lost what it cost us.

"Q. Yes, but every year that advances from the time that the plant is constructed, it is approaching by a percentage the time when it will become inadequate or obsolete?"

"A. But it has not become obsolete."

There is coming a time when it will become obsolete, but when that obsolescence occurs, it occurs all at one time,—we take the part out.

"Q. Oh, I understand you do not absolutely abandon it until a certain period,—but there has been accruing through all this time and you have been setting aside for that very purpose, or supposed to set aside, a fund to care for that obsolescence and inadequacy when you remove the articles?"

"A. We have set aside a fund; but obsolescence has not occurred, the obsolescence occurs at one time."

The plant goes along, this plant today is in good operating condition, but it is not obsolete; but some part of it may become obsolete two years from now. My opinion is that when you come to estimate the present condition of this property and its value, you take it as it was constructed as I have done here treating it as new. Then I come and say; well, we are now going to depreciate the property, and my idea of getting a fair value of it is to depreciate  
3013 it by only the per cent condition and ignore the items of their obsolescence and inadequacy, although we have made

provision and have been permitted to earn a certain sum to provide for this inadequacy and obsolescence. My reason for that is this: the plant is here, it is in operation, it is performing the functions that it was intended to; it is not obsolete, it is not inadequate and there is no deterioration; there is nothing except natural deterioration and I have taken into consideration that only.

"Q. Now, that being the case, Mr. Gates, and there is no obsolescence and inadequacy, and you have all these years taken from the community sums of money to provide for obsolescence and inadequacy, and it turns out there is none in existence, then you have taken from the people and for that fund, something that was wrongly estimated and should not be collected?"

"A. No, I think your premise is wrong to start with. We have not taken from the people enough money to take care of depreciation, and to pay us a reasonable return and for our expenses, we have not had the reserve to start with; in the second place, we know that sooner or later some of this property will become obsolete."

But it has not become obsolete at this time; but we must have the money so that when the property becomes obsolete, we must have the money to take care of it.

3014 "Q. Now, Mr. Gates, take for instance, we can take this table (indicating attorneys' table in the court room) say it was bought ten or twelve years ago and you look this table over and test it by every means that you can see, and the table is in practically 100% condition, it needs a little paint, and that estimate reduces it down to say, 95%, the table is designed to accommodate the purposes of this Court room——"

"A. Yes, sir."

"Q. —and it did for several years, and when it was put in it was supposed to accommodate it for several years; but we have come now to the point where within another year the table will be of no value whatever for this purpose here, but we need a much larger and differently constructed table—it would be economical and more convenient to have a circular table instead of one like this; now, it has not been taken out yet, but the conveniences and fixtures desired may require that it be taken out within the next year. Now, you say that when you come to estimate the value of this table—we will say we will get the cost of it, or get the cost of what it will take to get a table like this new and depreciate it only five per cent that it will take to paint it and put it in good physical condition, that means that this table, while it is in good physical condition, the five per cent of its value will put it up to 100%; yet, because it is no longer useful, or will be useful for only another year, we must also deduct this accrued obsolescence and inadequacy that has been coming on during the years since it was first installed. Won't  
3015 you have to consider that fact in trying to fix a value upon this?"

"A. Not so long as you are using the table; as long as you are using the table it is not obsolete and inadequate, or you would not use it."

"Q. It is not obsolete, but the question of the value of the table,

you wouldn't say that table, although you know it is in perfect physical condition, but that you know in a year is to be displaced, has the same value as one that will serve the purpose for twenty years, would you?"

"A. As long as you are using it and it is serving the purpose it is worth what the value would be to put it in shape."

"Q. Not when we know that within a year we will discard it and buy a new table, because it won't serve its purpose?"

"A. I think the time is off when you do discard it, somebody might come in during the year and decide they want an oblique table instead of a circular one."

"Q. But the fact is and all the physical facts absolutely demonstrate, that it is a circular table and a larger table that is necessary to fulfill the requirements and be up to date and give the best service. Now, isn't it a fact, isn't it almost demonstrated that you have to take into consideration the fact that the able was not what was desired for the purpose for which it was being used?"

"A. I think that as long as you are using that table for that purpose and it is serving the purpose, that there is no obsolescence."

3016 "Q. There is no obsolescence and you would not depreciate the value of that table?"

"A. There is no obsolescence and I would not depreciate the value of that table except by physical deterioration."

"Q. Except by physical deterioration? Now, turn from the table to your plant. And are you familiar with the fact that we are coming to the age of automatic telephones, that they are taking the country and they are going to be installed—that economy and good service and up to date equipment require their installation? Now, you have got a plant standing here today, manually equipped and this plant has been installed for something over twenty years. Now, the first year you were nineteen years removed from this age, the next year eighteen years removed, and now we have gotten up to the point where it will be demonstrated—can be demonstrated that it will be replaced by automatic equipment. Now, you say that this plant, to get a test of its value would be only—would be 92 per cent, or in other words, its full reproduction value, less the deductions for the actual deterioration of the physical?"

"A. I do not think obsolescence should be taken into consideration in considering this appraising until the property becomes obsolete. This appraisal is based on this theory: That we are seeking to determine the value of the property that is here, that is being used."

"Q. Yes.

"A. Now, we are not substituting some other property for it, but we are taking the property that is here and estimating what  
3017 is its present value—and my estimate is as I have said—

"Q. Yes? And now in determining its per cent value, you will have to take into consideration the other, if anything, for the reason that within a year you are going to have to make radical changes in the plant in order to make it modern?"

Mr. D. A. Frank: What is the evidence of that?

"A. There is no evidence to my mind that we are going to have to do that. If we wanted to change this thing within a year we couldn't do it, Mr. Howard."

"Q. Well, within two years, or whatever time?"

"A. We couldn't do it within two years or within three years, or even five."

"Q. Well, assuming now that an automatically equipped plant is a more modern and better plant, would you regard it as good economy to go ahead and reproduce a plant new with the manual equipment, instead of starting it with the automatic equipment?"

"A. But what I am seeking to give you is value, the reproduction value of this particular property. I am not seeking to originate the plant or to replace this plant with another type or class of property, what I am seeking to give you is the value of the property that is here and the service."

"Q. Yes, right now?"

"A. Yes, sir."

"Q. And you absolutely shut your eyes to the fact that it is liable to be replaced within a comparatively short period of time by  
3018 more modern equipment?"

"A. I don't know that it is going to be replaced; I know this, Mr. Howard—

"Q. No, but if it is proven that in all probability automatic equipment is the modern equipment?"

"A. Mr. Howard, if it was desired to replace this plant with automatic equipment, we couldn't do it in five years, you couldn't supply the equipment."

"Q. Well, even within five years is a comparatively short time?"

"A. In five years automatic apparatus may be discarded."

"Q. It may be?"

"A. Things of that kind change. Just to give you an illustration, the New York Telephone Co. had about thirty years ago installed the multiple switchboard, the first multiple switchboard ever put in of any consequence, in Courtland street exchange; that switchboard was installed, but was never operated; it was the greatest improvement we had in the art when it was put in there, and it changed over night. Now the automatic apparatus today, in the present state of the labor market, may be, may prove it, but the entire output of the manufacturers as I understand it, as I have been informed, is contracted for at least five years in advance, we couldn't get automatic apparatus unless there was some change in the manufacture or the schedule of that apparatus within that five year period; within that five year period something else may take the place of the automatic."

"Q. I understand, perhaps, your reason or position on that point. But my question is, if the issue is resolved to determine in  
3019 favor of the automatic equipment as being a much more desirable equipment, then would you still contend that there was no obsolescence in your plant on that account?"

"A. There is no obsolescence, for the reason that I cannot conceive,

I cannot see where you could replace this property if you started to do it within any time that you could say, that you now fix that this thing was going to become obsolete. But it is not going to become obsolete, it is not obsolete. What we are talking about is the property that is here, and not some other kind of property.

"Q. It is a fact, isn't it, that there was an automatic plant established in this very city, that was working very satisfactorily, and you came in here and they lived for a year and a half in competition with your company, and then your company later bought it out and paid \$1,300,000.00 for it to eliminate competition?"

"A. I don't know about \$1,300,000.00 just to eliminate competition; we got considerable property, Mr. Howard. Automatic telephone plants have been in existence for a considerable period, and in some places, and in many cases, they meet the need of the public; some people don't like them, and I think it is largely a question of time to determine just how the automatic is going to be taken by the public."

I have such a map showing where the conduit lines of the Home Telephone Company ran; I don't know whether I have it  
3020 here or not. In some instances they are parallel. I have an inventory of that equipment in my inventory. If there were cases after we purchased the Home Telephone Company that a great many of our conduit lines and pole lines paralleled and ran along the same territory they were not included in the inventory; only the property that was used or useful was included.

"Q. But did not the paralleling of those lines make your equipment very excessive—that is, that it was no where near loaded to its capacity and no prospect of its being loaded to its capacity for years?"

"A. On the contrary, the purchase of the automatic property saved us the tearing up of streets, the construction of additional conduits in many cases,—the City of Houston had grown so——"

"Q. (Interrupting.) Did it in all cases, were there any cases in which you were using it to some extent, but not anywhere near its capacity?"

"A. As I said before, we have not included any property that is not used or useful."

Direct examination.

Questions by Mr. J. D. Frank.

"Q. Mr. Gates, I just want to ask you a little bit more about that automatic. As I understood your testimony before noon, the automatic, while physically it may be operated, is more expensive  
3021 sive than the system which you have in now and is not entirely out of the experimental stage as far as universal use is concerned; was that your testimony?"

"A. I don't think that I said it was more expensive. I said I didn't think there was much difference in the total expense."

It is more expensive to install, more expensive to maintain, and more expensive from an interest standpoint, but less expensive from

an operating standpoint. The main advantage of the automatic system would be that you would get rid of your difficulties in getting and training employes; you would get rid of a large amount of your difficulties that you have there.

Assuming that wages are going to come down and prices are going to come down, as Mr. Howard seems to think, there would be no special reason to have the automatic system at all, if that is true, that is, if wages come down, but they will come down only because there would be a lack of demand for labor. That will make it easier to get good operators; you can keep them long enough to train them and I think the coming of the automatic would be deferred; possibly it might never come. But even if the price of wages should rise and labor difficulties should get more and more acute, it is my understanding that practically all of the output of the Automatic Electric Company is scheduled for five years or more in advance at this time.

I do not know exactly how many stations there are in the United States of every kind of telephone; The American Telephone Company has something like Ten Million. The American Telephone Company and all associated companies, the Bell companies, in the United States have approximately Eleven Million stations, and there are other telephones in the United States besides the Bell Telephones. I do not know how many there are of those. I saw a statement the other day that would indicate that there were probably two million outside of theirs. From what I have before me and what I have read I should judge there are about thirteen millions or more stations in the United States. I do not know what the output of the Automatic Telephone Company's plant is.

"Q. A statement was made in evidence the other day it was about 85,000 a year. At the rate of 85,000 a year, just to replace the ones that are in use now in the United States and not take care of any increase, it would take more than 100 years, wouldn't it?"

"A. Yes, sir."

It is a fact that they could increase the capacity of the factory probably if there was sufficient demand. There would be no possibility of getting those within a reasonable time from the present time if it was desired, as I said before, I think it would be a physical impossibility to change this plant over in less than five years, unless there was some decided change in conditions. From all I can see today, in my best judgment as a telephone man, I do not think there is any likelihood or even possibility of this plant being made automatic in less than five years.

3023 (By Mr. J. D. Frank:)

"Q. In one of the questions Mr. Howard asked you this morning, he made a statement something like this: Assuming that this plant had been here 20 years;—would you say that this present plant had been here 20 years, or that property constituting the plant at the present time?"

"A. No, sir, I don't think it has been here anything like 20 years."



In fact, most of it is largely new. I have some figures that I would like to find here. Since 1910, there has been more than four and a quarter millions of dollars spent in the City of Houston on the plant. All the buildings have been built in that period, all the switch-boards that are in those buildings have been installed during that period and a very large part of the cable and outside plant have been built within that time.

Cross-examination.

Questions by Mr. Howard:

If we were changing to the automatic system here we would not have to replace our entire plant, that is, substitute other kinds of property for the entire plant. It would be mostly in the telephone instruments and the central office equipment; it would not require any change in the outside cable and pole lines and underground conduits and such as that. I do not know what the composite age of the plant is, that is, the average age.

3024 Direct examination.

Questions by Mr. J. D. Frank:

I know what the original cost of this plant was as is shown by the books of the Company. I am familiar with the amount of the gross additions that have been made in this plant during the last nine or ten years. I have made an estimate or an approximation of the amount of money which would be required for necessary extensions in the next ten years; I should judge that at least  $3\frac{1}{2}$  millions of dollars would be required. I am thoroughly familiar with the plant itself.

As to whether or not the plant is economically justified, or that there is need for such a plant as this in the City of Houston, I would say beyond question, the City of Houston needs a telephone plant. The City of Houston is a growing prosperous community, many lines of business here; it could not go on without telephone service. In the present condition of the business and the conditions of various businesses and interests in Houston there is something which will indicate that there will be an increased demand for telephone service in this city; the demand is increasing and will probably continue to increase if the prospects are any criterion whatever.

I believe that this plant has been well constructed and well maintained. I doubt if there are many plants of like size in the  
3025 country that are in as good shape and have been as economically constructed as this one has.

Taking the location of the plant as a whole, I think it is favorably located. I think the City of Houston is a prosperous and growing community. I think it is a good city for a business to locate in. In fact, I doubt if there are many cities more favorably located.

I would say that this plant has a potential earning capacity and

every reason why it should earn money. It is furnishing a necessary service to people who can afford to pay for the service that they need. Under normal circumstances the plant would be capable of earning money.

As to whether or not this plant has been well engineered in the past, I think it has been well engineered. A great deal of attention has been paid to the engineering work, and a great deal of care has been used before the actual plant expenditures have been made. I know that to be a fact, because I have been directly interested in most of the expenditures that have been made here in the plant as it exists today.

I think the plant is being well engineered at the present time. I don't believe there is any waste money in this plant or that there has been any construction put in here that was done in a wasteful manner.

I have made a study of this community, that is, of the City 3026 of Houston; I have studied the growth of Houston from all sources and from all angles and I have gone over the records of the city, or had them gone over and I have secured information from all sources that I could, the Clearing House Association, the Federal Reserve Bank, and numerous other sources as to the business.

I would like to introduce this Exhibit, as the City Book of Houston, published in 1917, which I believe is put out by the City of Houston. I did not prepare the book but I have studied the book very carefully and I found a great deal of very interesting information. Then I followed out the sources of information and from that and from information that I have secured, leading out from that book, I have prepared an exhibit which I want to introduce in evidence.

Mr. J. D. Frank: We desire to offer as Exhibit No. 39, Mr. Gates' exhibit, and in connection with this Exhibit No. 39, I would like to offer in evidence this Illustrated City Book of Houston, 1917, as Exhibit No. 40.

The documents referred to were thereupon received in evidence, marked "Plaintiff's Exhibit No. 39," and "Plaintiff's Exhibit No. 40," and are transmitted herewith in the Exhibit File.

On the first page of this exhibit, I have shown the growth of the city, its population, beginning with 1860. In that year the city had 4,845 people. In 1900, it had increased to 44,663. In 1910, it had increased to 78,800. I have estimated the increase between 1900 and 1910 at the same ratio as shown by the census from 1900 to 1910.

In 1914, the population is estimated by the publisher, the 3027 figure estimated by the publishers of the City Directory, and the estimate of 1918 is based on the scholastic population and that shows a population of 160,000 people. The population has doubled several times in the last forty or fifty years. My study shown that there has been a steady increase in the population of this city. On the page following is a diagram which illustrates this. That is, on page 2 of the Exhibit. That is a curve which I have prepared showing the increase in the population, beginning at 1860, a little less than 5,000 people and going up to 160,000 people in 1918.

On page 3 I have shown there the assessed value of the property

in the City of Houston as shown by the City. There has been a steady increase in the assessed value per capita. In 1901, the total assessed value of the City was a little over 27 millions, which amounted to \$582.46 per capita. In 1910, this had increased to \$808.96 per capita, and in 1919, it had increased to \$936.64 per capita. The total increase in assessment from 1901 to 1909 expressed in percentage has been 444.3 per cent, and the increase in the assessment per capita for the same time has been 60.8 per cent. The next page shows a curve which shows the assessed value per capita for each year from 1901 to 1919, and shows clearly how it increased per capita. The curve shows a very marked upward tendency from the beginning, and the reductions are due to some changes in the method of assessment.

The next page of my exhibit shows the bonded debt of the City of Houston; between 1900 and 1901, this was \$3,085,000.00, or \$65.26 per capita. In 1918, this had increased to \$15,474,750.00, or \$96.72 per capita, an increase of 401.6%, the total, or 48.2% per capita. The next page is a curve which shows that; it shows that the debt goes along fairly level until 1912, and then shows a marked increase per capita, showing that the credit of the City must have been good or it couldn't have sold the bonds, indicating to my mind that other people thought this was a prosperous community.

The next page shows the cost of the municipal improvements in the City of Houston; in 1901, this cost amounted to \$3,667,225.00, or \$77.58 per capita. In 1918, this had gone to \$23,108,802.00, or \$144.40 per capita, an increase in total cost of 532.7%, an increase per capita of 86%. The curve on the page following shows the increase per capita,—shows a very decided upward trend, indicating that the City has accumulated a very considerable amount of property. The next page shows the revenue of the City of Houston from all sources, except bond issues. In 1903, this revenue amounted to \$787,586.00, which was \$14.87 per capita. In 1918, this had increased to \$3,686,501.00, which was \$23.04 per capita. The increase in total revenue of the City between 1903 and 1918, was 368.5%. The increase per capita in the same period was 54.9%, a very considerable increase. That indicates that the City is in a fairly prosperous condition or that it has been going forward, and it also indicates that the people of the City have accumulated considerable property, or they couldn't afford to pay an increase of nearly 55% in their taxes. The increase per capita is shown by a 3029 curve on the page following.

The next page deals with the expenditures of the City of Houston. In 1903, these amounted to \$695,748.00, which was \$13.14 per capita. In 1918, the expenditures were \$3,486,500.00, which was \$21.79 per capita, an increase in total of 401.2%, an increase per capita in the same period, of 65.8%. This would indicate that the increased cost of government is more than 65% per capita, since 1903, and I understand that this year will see a still further increase, judging from the budget. On the page following is a curve showing the fluctuations in the expenditures per capita. It shows a general upward trend, in fact, a very marked upward trend.

The next page of my Exhibit shows the building permits issued by the City of Houston in the year 1902 to 1918, with 1919 estimated after having the actual data for about 10½ months, so there is about 11½ months estimated in the last year. Building permits in 1902 were \$958,000.00. In 1913, they were \$5,432,265.00. There was then a decrease during the War, but in 1919, it was estimated that they would be \$5,500,000.00. During the period from 1902 to 1919, inclusive, building permits aggregating \$54,818,600.00 were issued by the City of Houston, indicating to my mind that the City is prosperous and growing and that it is a community that is full of business, that has made for telephone service, in fact, for all public services.

3030 On the page following, is a diagram showing the building permits issued by the City of Houston in 1902 and 1919, inclusive. This diagram shows the figures in a cumulative manner. That is, the figures grow as the buildings grow in the City. If we had no buildings in the City of Houston in 1902, we would have during that year \$958,000.00 built, and we have added each year as we go along until now we have something over \$54,000,000.00 worth of buildings in the City of Houston that have been built since 1902. Those figures over at the left-hand side are millions. That "0, 4, 8, 12, 16, 20," etc.,—dollars, beside that, millions of dollars.

The next sheet shows the bank deposits from 1910 to 1919, inclusive. I think that shows beyond the question of a doubt that the individual people of the City of Houston have been prospering financially. Bank deposits are shown as near December 31st, as possible. The call was made on different dates in different years. The 1919 figure was the November 17th figure, but since that time there has been a call as of December 31st, and there is a slight difference, I think, of about Two Million Dollars less. In 1910, the bank deposits were \$28,910,930.00, which was \$366.88 per capita. In 1919, there were \$98,087,994.00, which was \$613.05 per capita. This was an increase in the per capita of 67.1% during this period, a total increase in the bank deposits of over 239%. I think that clearly indicates that the wealth of the City is increasing and that the people are prosperous people. The next page shows a curve showing how the

3031 bank deposits per capita have fluctuated between 1910 and 1919. There was a decrease in 1914 and 1915, due to the first flurries of the War. From that time, the trend has been almost steadily upward. I don't know of any better indication of the wealth of the community than its money.

On the next page are the bank clearings. These are shown from 1914 to 1918, inclusive. I might say that prior to this date, the Houston Clearing House Association was not a member of the National Clearing House Association, and its figures contained some items that made them different from other cities, and made it impossible to compare them. So I have taken the figures since 1914. The clearings in 1914 were more than \$422,000,000.00. The total increase was over 87%. The increase per capita was from \$3,265.00 in 1914, to \$4,945.00 in 1918, an increase of 51.4 per cent per capita. On the page following is a curve showing the bank clearings per

capita between 1914 and 1918. It will be noted that there was a slump in 1915, but since that time the increase has been very marked. Everything that I have been able to get, all the statistics that I have been able to gather, everything that I have been able to learn, indicates that Houston is a very prosperous community, that it has increased in wealth, and apparently it has a future that is very bright and it is going to continue to increase. We have found that in our business we have had no serious complaints from subscribers that I know of regarding the higher rates that were in effect through Feb. 1, 1919, to July 31st. In fact, during that period, the number of applications for service increased more than 40% over the same 3032 period of the year previous at the lower rates. The daily newspapers indicate that the people generally are in favor of paying a higher wage to some of the City employees. In fact, there does not seem to be much objection on the part of the people or much complaint about expenditures.

(By Mr. Howard:)

"Q. How would you like to submit the matter to a referendum?"

"A. What did you say?"

"Q. How would you like to submit the matter to a referendum vote?"

"A. I don't think that is the way to do anything of this kind. I don't think you could ever get the general public."

The general trend of people who get out and talk about this thing is that they are willing to pay a reasonable price, what we find in talking with our subscribers, they say we are willing to pay you a reasonable price for the service. The referendum doesn't get the people who are interested. Lots of people vote who really have no interest in the matter.

Mr. D. A. Frank: You had a referendum about the first of March, after the rates were raised and the people kept the service after the raise.

"A. (continued). They not only kept the service but as I said there was an increased demand of about 40%. The trouble with a referendum is the point I tried to bring out, there's lots of people vote besides just telephone users."

(By Mr. J. D. Frank:)

3033 "Q. Mr. Gates, I believe they had a referendum in which they voted down the increase in street car fares after the City had passed an ordinance allowing increased rates?"

"A. That's my understanding."

Mr. Howard: They would vote it down very promptly if they were given a chance to do that.

Mr. Duls: They would vote down paying taxes too, very promptly, if they were given a chance to do that.

I have determined what in my opinion constitutes the value of the property of the Southwestern Telegraph & Telephone Company

in the City of Houston, and basing my opinion on all of these things, as the original cost as shown by the books, my estimate of the cost of reproducing the property in its present condition, the condition of the plant itself, the necessity for such a plant as that in Houston, the amount of its outstanding stocks and bonds, if that has anything to do with it, the past history of the community, and its present prospects for the future, and on my opinion as to whether or not this plant is capable of earning money under normal circumstances, not less than seven millions of dollars in my opinion, is the value at the present time of telephone property of the Southwestern Telegraph and Telephone Company which is being used in the City of Houston at this time for the purpose of furnishing the public with service.

Cross-examination.

3034 Questions by Mr. W. J. Howard:

It is more than the books show we paid for it, but I don't think the cost is the measure entirely.

Mr. D. A. Frank: The books only show the physical cost, too.

After Mr. Burleson put up this increased rate there was an increase of something over 40% in the demand for phones. We did not advertise or send out any soliciting agents during that period, nothing more than we did in the previous year.

"Q. That shows what a clamor there is for telephone service, and big demand for it?"

"A. I think the City is growing and the people want telephone service.

"A. You have to keep your applicants pacified and give them excuses—

"A. (Interrupting.) We have difficulty in placing telephones, yes."

"Q. You have a trouble man to stand between you and the demand for telephones?"

"A. We will probably have more difficulty if we are unable to pay for material to build this plant and extend it, that is without getting a rate sufficient to expand this capital."

"Q. At any rate, you have subscribers clamoring for service?"

"A. Oh, we have subscribers coming to us. It is a fact that we are unable to take care of the business at this time."

"Q. You have more demand than you can supply?"

3035 "A. It is a fact that we have more demand than we can supply, for various reasons.

(By Mr. J. D. Frank:)

"Q. You are unable to get various types of equipment, on account of shortage of material?"

"A. Yes, sir."



(By Mr. J. D. Frank:)

"Q. You don't know that that same condition would exist if the people of Houston were today without service for three or four years, would it?"

"A. Well, if a city as large as Houston went without this service for three or four years, they would get out of the habit of using telephones to a certain extent and they would have to be reeducated."

"Q. That is the reason you say it would cost money to attach the business in case the business was destroyed?"

"A. Yes, one of the reasons. If a man came to the office and put in his order, it would cost us some money to attach that business."

"Q. It is costing your money all the time to attach that business even though they do come to your office?"

"A. Yes."

3036 JAMES E. ALLISON, a witness for complainant, being duly sworn, testified as follows:

Direct examination.

Questions by Mr. J. D. Frank:

My name is James E. Allison; I live in St. Louis, Mo.; my occupation is that of a valuation engineer of the firm of James E. Allison & Company. That is the firm that is doing business in St. Louis, Mo. I am a valuation engineer connected with that firm, I am the head of the firm. We make valuations of Public Utilities, confine ourselves almost entirely to that, for rate cases, for reports to bankers, for examinations, trust funds, etc.

With reference to just what experience I have had which qualifies me as a valuation engineer, after graduating from College, Harvard University, I became a student engineer in the Cordage at Xenia, Ohio, and in the Star Cotton Mills belonging to the same firm at Danesville, Ohio, specializing on power plants and making designs.

After that I was a student engineer in the Xenia  
3037 Gas Light & Coke Company where we had construction work and operation of the Gas Company. Afterwards became Manager of the Company. I then removed to Nashville, Tenn., and became Manager and Chief Engineer of the Southern Manufacturing Company, which manufactured street railway equipment, and was also at times the Consulting Engineer for the United Railways at Nashville. I volunteered in the Spanish war and became Captain of Cavalry and Adjutant of the Regiment. After that I came to St. Louis and opened an office as Consulting Mechanical and Electrical Engineer. That was in Ninety Eight. One of my works there was the construction and design of the combined telephone and signal system for the street railroads. I worked about 2 years on that. In 1904 I was made Consulting Engineer for one of the Departments of The World's Fair, and had charge of the design and erection of combined telephone and signal apparatus

for the Gates of the Fair, to take care of the people coming in and to have what was called a secret place where all the people were registered just as they came in by electricity. After that, just about 1906, I was made Chief of the Bureau of the Department for Inspection of Boilers and Elevators of the City and Chairman of the Board of Examining Engineers, examining the power plants. In the early part of 1909, I was appointed Commissioner and Chief Engineer of the St. Louis Public Service Commission. That was a Commission created to make detailed valuations and recommend rates and regulations for all public utilities for St. Louis, that was in the early 1909. There were three commissioners. I was appointed Commissioner and Chief Engineer. It was my duty to organize the engineering force, to lay out the methods of valuation which was then pioneer work, and receive detailed valuation of all the equipment in St. Louis. The amount of work we did there amounted to about \$107,000,000.00 in four years; Public Utility Property.

As Chief Engineer those valuations were made under my very close supervision; you might say by me. Of course, we had quite a large force of men. They were under my personal supervision and you might say direct and minute supervision. In 1914, there was a State Commission created and the City Commission practically lost its power. I resigned and entered the practice, general practice, of valuation and consultation on public utilities. Since then we have valued, well, I think with what we did on the Commission (By-the-way, I took the engineering organization of the Commission with me, and many of them are with me now, with the consent of the Commission), we made detailed valuations of about \$250,000,000.00 of property. We have been in consultation with Public Utilities, in consultation capacity with valuations that amounts to, I think, two hundred and thirty or some additional millions, making altogether about \$580,000,000.00 that we have been responsible for more or less. The value of the property which we appraised ourselves in detail, about \$350,000,000.00 and about \$230,000,000.00 that we have been in consultation capacity in, and I think, let's see, well you might run the figures way up by saying that we acted in a consulting capacity to the President of the Conference Committee on the

Valuation of the railroads of the United States.

3039 The President Conference Committee is a committee of

Presidents of railroads who had direct charge of the valuations of the railroads as they are presented to the Interstate Commerce Commission. They supervise what is done by their attorneys and engineers. The connection I had with this conference was only in a consulting capacity. I made the report to them on some of the methods and theories of valuation.

During the time that I was connected with this St. Louis Public Service Commission I had occasion to appraise telephone property; we appraised in detail the Bell Telephone System there and the Kinlock System. Since then we have appraised telephone properties amounting altogether to about \$45,000,000.00. I say since then, I mean including what we did there. Our appraisals of telephone

properties in detail, detailed appraisals, not reports, has been about \$45,000,000.00 of telephone properties.

My work as a valuation engineer is not confined mostly to the State of Missouri; we do work all over the World, Pennsylvania, Illinois, Missouri, Arkansas, Texas, Kansas; in fact, wherever we are sent for to do it.

Up until the time I made an appraisal in this case I had done valuation work in the State of Texas, one report made for the City of San Antonio on the telephone property there. There was a law suit there and we were called in to make a valuation of the property and advise the City as to whether they should go on with the suit or not, that is, there was rate litigation between the City of San

Antonio and this same Company, Southwestern Telegraph and Telephone Company. We were employed by the City to make a report on the valuations of the Southwestern Telegraph and Telephone Company in that city; it was either last year or the year before; I think it was 1918. It was while the Camp was there. I have heard that the city accepted our report on the valuation of the property there. Yes, I understand they accepted our report and the litigation was dropped. I do not recollect our valuation of that telephone property there compared with the valuation which has been placed on it by the Telephone Company.

In this valuation work that we have been doing, we have got a principle of telling our clients that the results are going to be the same whichever side we are on, and I have lost some business that way and I expect the bulk of our business, you see, we have made valuations for the City of St. Louis since I have been off the commission, a very large part of it has been for the cities. We acted in a consulting capacity for the City of New Orleans on their street railway properties, and a large amount for the City of St. Louis. We made a valuation in 1918 for the City of St. Louis in their case before The State Public Service Commission in connection with the street railroads. We were retained by the City. We desire to have work from both sides. We make valuations for either one side or the other, and our results are not influenced in any way or determined by whichever side employs us, that is understood beforehand. It ought to be understood in every engineering report, and I think it is part of the ethics of the profession. I never had but one time in my history where anyone offered or asked me to bring in any report for any purpose. That was only once. I did not take the case.

We have done other valuation work in this State; we made the valuation of the Lighting Property in Houston in 1914 in the rate case against the City, for the Electric Light Company; we made that for the Light Company.

I am a member of the Lawrence Scientific School of Harvard; I am a member of the American Society of Civil Engineers; member of the American Society of Mechanical Engineers; American Economics Society and other organizations. It is not an economic society, but it is an engineering organization. I forgot to mention

that I am a Lecturer for Washington University. Washington University is at St. Louis.

I was employed by the Southwestern Telegraph & Telephone Company to make an appraisal of its property in Houston. I was not instructed, nor was any request made to use any certain method in valuing this property or appraising it. Our report, however, is based on an effort to get a measure of present value, and the report is its reproduction cost.

I have made an appraisal of the property of the Southwestern Telegraph & Telephone Company in Houston. In making that appraisal we have used, as closely as we could, present day prices. We use present day prices because we wish to get a measure, as close a measure as we could get, of the present fair value of the property, and to do that we considered that we had to use present prices. As to whether or not prices of material and prices of labor are pretty high at the present time, I will say prices are comparative, if you compare prices with what they have been they would be considered high, but perhaps in a few years we won't consider them high, but comparing them with past prices, they are high.

In my valuation work I have occasion to be familiar with the prices for a number of years back. I am familiar with the prices which in a general way existed prior to the beginning of this World War which we have just gone through; we have eleven years' records in our office of prices and we have practically a complete record of vouchers and bills of all these companies, and they are all indexed, and copies of their contracts, and it forms a rule for records, and they have there all the prices practically of the material that enters into the make-up of public utilities since 1909.

With reference to the history of the prices of material since 1909, they were comparatively stable until the influence of the European War reached this Country, when we went into the war. There was not a general increase in prices of material between 1909 and the beginning of 1914 when this War started. The prices were quite level. In fact, in making valuations before the war, the original cost and reproduction cost, so far as physical property went, would come out very closely together. There was a long period of comparatively level prices and I think we may look for another period of comparatively level prices.

I would say that prices between 1909 and 1914 were pretty level. If there were any changes at all it would be due to the gradual advance of labor coming from the greater accrued power of the labor unions. The general tendency would be upward, but it would be very general. There was an upward general tendency.

I would say that in the early part of 1917 this country began to feel the effects as far as the high prices were concerned of this European War; I do not recall the curve, but I have it here with me, anyhow it was along about that period.

From my study and from the information of these various prices in the past and at the present time, there is nothing which would

indicate that we may expect cheaper prices and cheaper labor prices in the near future, in my judgment, I don't think you will. There is a great deal of shortage in the market of construction material, I mean by that, for instance, that all the cities are underbuilt, most of them, the prosperous cities' building has been neglected naturally during the war. We had to catch up with that. Office space can hardly be found in most of the cities. The railroads have been neglected to the point where it is estimated it will take \$3,000,000,000.00 to put them back in good shape. That all represents work and material. Of course, the basis here, as I think, of it all is labor, and labor seems to be advancing instead of going down. There is no indication that we are going to have any reduction in the prices of labor in the future; I think there can be no reduction for some time. It would be a very dangerous thing if there were any causes creating a reduction in the cost of labor, and I 3044 don't think it is going to be brought about.

As to whether or not there is anything else besides this shortage of production which I speak about, which, in my opinion, would tend to keep up the high prices which I am speaking of, if you take lead, the cost of lead seems to be advancing. Copper went down a little while ago due to their accumulating a great store of copper while, I think, the war was going on. Copper, however, is a pretty well controlled article. It is lower now than it was during the war. Timber, we can look for a steady advance in timber. Leather is going to be not much lower because there is really a shortage of cattle, and you can look over the whole field that way, if any one gets at it soberly, they will hardly hope for any lowering of prices in construction or manufacturing unless we have some very great improvements in the efficiency of manufacturing. I can't foretell that. There may be and there may not. That has generally happened for a long time, and there has been high cost after these wars and prices have stayed up until there was a greater efficiency obtained, due to the invention generally of machinery. After the Civil War, labor, for instance, has never returned—the labor index cost as gotten out by the Government or calculated from the Government reports, labor has never returned below what it was in 1865. It has gone up comparatively steadily.

The Armistice has been signed for something over a year now and there has been no appreciable reduction in either the prices of material or the prices of labor; the prices of material, for instance, in telephone work have been advanced in the last month continually. Of course, nobody knows how high it is going up, 3045 but we can't see any indications of its getting any lower for a long period of time if it ever does. Money itself, throughout the history of the war, has always become cheaper and cheaper, which makes prices always advance.

I have prepared a report as to what it would cost to reproduce this property of the Southwestern Telegraph & Telephone Company.

The report was thereupon offered and received in evidence marked "Plaintiff's Exhibit No. 60, witness Allison," and is transmitted herewith in the Exhibit File.

On page 3 I have a summary of the reproduction cost of the physical property. The first item I have there is Land. As to the cost of reproducing the land which is \$215,187.50, the details with reference to that are shown on page 12. In appraising that land we took the judgment of a local real estate expert, Mr. George Wilson, and they are the same figures that were obtained by Mr. Hoag. The price of each particular piece of land is shown on page 12.

With reference to buildings, which is the next item on page 3, we found the reproduction value of the buildings was \$476,300.00; we got at that practically in the same way. We took the bids of contractors in Houston, and on page 12 each building is shown added up making a total of \$476,300.00. The contractors that I am speaking of are the contractors on the Preston building, the American Construction Company for the building, the Warren

Company for heating and plumbing, the Barden Electric Company for electric wiring and the Otis Elevator Company for elevators. On the Hadley building, Mr. Baring for the building, Warren Company for heating and plumbing, and the Barden Electric Company for the wiring. Those were the same gentlemen who made estimates for Mr. Hoag; we took the local bids estimate in preference to making a detailed estimate. When we got those figures we did not include anything for Architects' fees. It is customary to include the Architects' Fees in estimating the cost of reproducing a building; that is a matter that you would have to pay if you were reproducing the building. With reference to the customary fee, the American Institute of Architects, I believe, specify 6% on business buildings, they used to charge 5%; on residences it runs anywhere from 7½% up, and on alterations it would run higher. I do know too, a conservative allowance on that for Architect fees would be 5%, but we haven't included it in there, in fact, that might be called an omission and contingency but we did not include it in there; it would perhaps be justifiable.

My next item of the property on page 3 is the Distribution System for which I have \$2,599,485.66; the details shown with reference to that particular part of the property begin on page 13; there are further details in my table on page 13. That is an intermediate table, however.

For the purpose of illustrating how I have appraised the property, taking on page 13, for instance, a 25-foot Class "C" Pole, we obtained actual prices from the dealers in poles. We took those prices and applied our estimate of the cost of installation, freight, etc. Now those estimates I did not carry in my head, but I have them here if you care about them. I have got as the cost in place of a pole, \$9.42, that carries installation with it, that is, the cost of the pole in place. Regarding the details of this item, in that 25-foot, Class "C" pole, the cost of the pole is \$5.35; freight, which has to be applied after getting the freight rate from the Government, the Railroad Administration, is \$1.66, that is, total F. O. B. Houston, \$7.01; we have applied an installation cost there of \$2.41, making a total of \$9.42. As to where we got the prices with reference to the price of these poles, we have quotations coming into



our office from the pole men. We got these prices that were used here from the Western Electric Company. As to why we went to the Western Electric Company to get prices, we would have gone to several, as a rule, but we had gotten prices from them before and we went to them because they were the easiest practical, and we could get them quickly. We had to get them very quickly.

I have been in this business for a good while and have investigated the prices of material a good many times, and I have had occasion to draw comparison between the prices of the Western Electric Company and the prices of other suppliers on telephone materials; we have made valuations of Independent Companies considerably, and we once had a study made in our office to see, as a matter of curiosity and information to ourselves, we didn't know

we were going to use it, we found that the Bell Telephone  
3048 Company buy a little cheaper on the whole than the Independent Companies, that is, for the comparative items. That was made some years ago and I remember the results very clearly. That is, that the Bell Telephone Company receives better prices on the materials which they used than the Independent Companies get. By-the-way, in getting these quotations from the Western Electric Company on poles we got a quotation on a large lot of poles; we asked for prices on a lot of 17,000 poles, told them the quantity of poles that we wanted, but did not tell them what we wanted them for, in fact, where they were to go to, we wanted to keep out of that if we could. In getting our other prices from them we didn't even tell how many stations there were in the plant that we had in mind, but gave them a margin figure. So far as I know they may have known what we desired. We put it that way. We didn't care about them knowing it. We don't know what they know.

In the building up of our unit costs in this case, I have proceeded on the theory that we would construct this plant on a wholesale quantity and our prices are built on that basis. We asked for a price on 17,000 poles, and that is true with reference to the large quantity of the other parts of the property. In our Central office equipment, getting the present prices, we asked them for a quotation on a plant with between twenty-five and thirty thousand subscribers.

On page 16 with reference to Aerial Cable, we have a price there of 90 cents a foot installed, 200-pair cable. We have labor and miscellaneous material, 7.8 cents; labor and miscellaneous material on porch supplies and terminals, 3.4 cents; cable itself, 68.7  
3049 cents; freight on cable, storeroom expense, drayage and return freight on reels, 10.31 cents, making a total of 90.21 cents.

With reference to the rest of my distributing system, I have worked all that out in detail that way; it is worked out in detail. I have figured out the price of the material, then the price of labor and everything that goes with it, and have estimated the cost of the particular quantity of property in place, in other words, I treated all my Distributing System just as I treated this pole and

these cables and that illustrates my method of appraising that property.

On page 3 of my report, at the next item there, Subscribers Station and P. B. X., which is Private Branch Exchange, the figure we get for that is \$373,457.01; the details with reference to that are shown on pages 32 to 34. That is the telephones sets, installations and private branch exchanges and so on.

In appraising that property we got the prices of the equipment from the Western Electric Company, and checked those with vouchers—we didn't get all of them,—checked those with vouchers and records in our office using, wherever we could, present prices from the Western Electric Company. That is under installation on page 33; installation is figured separately.

Wherever we have that "Unit Cost," that does not mean the cost in place in the station equipment. The station installation is carried on another table at the bottom of page 33, and that is 3050 the cost of installation, added to the cost in the table above which would make the cost in place.

"Q. I notice in one place, Mr. Allison, you have on page 33 under station installation, Subscribers Station installation, Subscribers own quantity, \$2,263.00, unit cost 50 cents. Now why is there any cost there?"

"A. That is the cost of connecting it, what we think the cost of the company would be, a round figure. We have all the details worked out with reference to that and can give it if Counsel for the City desires. Of course, to give details back to the ground, we would have to bring a car-load of records here. To give details back to the very foundation of everything that we consulted in making these unit costs, we would have to bring all of our records, practically all of our records on telephone property, but I could tell them what part was material and such as that."

My next item on page 3 of my report is "Central Office Equipment"; we get for that item \$1,174,257.00. The details with reference to that are shown on page 34 to page 99; on page 34 is a summary of it, at the bottom of page 34. In appraising that particular part of the property we appraised that as original cost, for the reason that we could not get from the Western Electric Company any detailed prices on it within the time we had to make this report. So we took the inventory as furnished by the Company and priced it up at original cost. In doing that we had vouchers of the Company on nearly all of this material or a great part of it, and we had our own records as to cost, original cost, that is cost, say as of 1914. 3051 Now we took that original record and we added 55% to it.

We did that because we found that that was as near as we could get information as to the advance in this character of material since 1914.

Mr. Howard: What is that material, Mr. Frank?

Mr. J. D. Frank: That is the Central Office Equipment at the bottom of page 34.

Added 55% over the 1914 cost, that is, 55% over what it originally cost, and then we arrived at this figure of \$1,174,000.00.

After we had gotten it, we got a statement from the Western Electric Company which gave us their estimate on these different exchanges. Those are not the figures that we have down here, we used our own figures but their estimate. If we add our 5% of omissions and contingencies, which is necessary in an estimate, we come to the figure of \$1,232,970.00. Their figure as given as bids on this thing was \$1,242,514.00. In other words, our estimate when we put in our percentage for Omissions and Contingencies was within \$10,000.00 of what we received an estimate on.

We undertook to make an estimate of what it would cost to reproduce this central office equipment; we used 1914 prices, then added 55% to that as the increase, and then added 5% for Omissions and Contingencies, and then later we received a bid, as I call it, from the Western Electric Company and their figures was something like \$10,000.00 greater than the figure which we had, of course, that

3052 coming so close there was somewhat of a coincident. They do not always come that close. It is a peculiar coincident, but it showed to our mind the necessity of omissions and contingencies. Our estimate without the omissions and contingencies would have been considerably lower than that. The details of all that Central Office Equipment are shown on the following pages, our P. B. X., I would say, by-the-way, the details on that which we did the same way were omitted by the printer; we can furnish it if necessary. I have got a summary of it.

"Q. Did you consider the prices for Houston only on that Central Office Equipment, those vouchers that you used there?"

"A. We used those vouchers. They are the same prices. They get the same prices at other places."

Item 6 on page 3 is the bare cost of labor and material of an estimate on an Inventory without omissions and contingencies. Omissions and contingencies, of course, are intended to provide for the physical property, and it is cost omitted from an inventory for contingencies in construction that cannot be foreseen.

In our item of Omissions and Contingencies we have taken 5% there which is an orthodox figure and is the result of engineering experience all over the world in making estimates and valuations. Whether it is high enough, I don't know. You can't tell. It is to take care of the things that you don't know about. If a man had a bill of material or some specifications for a building contract and was going to make a bid on it, before he arrives at his price he puts in as percentage for things that he didn't know about, for  
3053 things that he had omitted or contingencies that might arise in the building of it that he couldn't foresee. Every estimator adds something to his bare figures of expending quantities of material to the price. If he didn't he would come to grief.

We did not apply omissions and contingencies to buildings because we had a bid figure on that; we considered it as a bid figure. Now, we considered that that was a bid. We used it as a bid, that that would be all the Company would have to put out, that would, however, imply that the Company gave complete specifications of what they wanted. In erecting buildings it is always found out that

there is something else wanted that is not in the specifications, in fact, one of the most prominent builders in the United States told me that they made their money on the changes in specifications. He was commenting at that time on building a building for John D. Rockefeller, and he said he couldn't get him to change a door knob and he didn't make any money.

Even after you have got your building constructed and it is generally on a bid, if you have certain omissions and contingencies in connection with that building the contractor would stand it unless the specifications were changed. As a rule, this builder told me, the specifications are changed, and that is where they make some good profit. We assume, taking the most conservative view of it in this case, that you had complete specifications, that the builder put up just what you wanted, and you didn't want anything changed in it. Now, if the facts as put to these bidders who furnished these figures were different from that, we didn't understand, in fact, we didn't know the details of it. Omissions and contingencies 3054 under ordinary buildings ought to go on there. Architect's figures ought to go on ordinary buildings also, that is an oversight.

(By Mr. Howard:)

"Q. You are an engineer, mechanical and construction engineer, and you start out to reproduce a building, and the first thing you overlook was an engineer's fee?"

"A. It wasn't an engineer's fee. We didn't overlook that."

"Q. You never heard of a lawyer forgetting the cost of a law-suit."

"A. I have heard of them taking 50% and not getting anything."

"Q. Would you honestly say that that is an omission. A thing that is so apparent to even a layman, that he wouldn't even start to building a building without figuring on architects' fees, that you come along and figure reproducing a building, an engineer now, spent a life-time at this kind of work, and the question of architect's or engineer's fees would never occur to your mind, and that you admit that, and you state that to be illustrative of the items of errors and omissions?"

Mr. J. D. Frank: He has not applied any Omissions and Contingencies to Buildings at all.

Mr. Howard: He is going to apply them good enough when he gets to other things.

"A. Well, Mr. Howard, I would like to tell you that all of these figures are honestly done. I don't care about that part coming in. These figures are honestly done. This thing shows on its face just exactly what I did. It shows exactly on its face what I did. There is no architect figures in there. Now do you think I did 3055 that for theatrical purposes? I didn't notice it."

I will tell you why I did it, because I forgot it.

As to whether or not getting an architect is one of the very obvious and outstanding things that meets the mind of an engineer right in the beginning when he is confronted with a building, I am

not making excuses for my overlooking that, but I did overlook it, and I omitted it because I forgot it. It is an illustration of omissions, a very good illustration too, no matter having spent years on these things, I could overlook that architect's fees ought to go there and I did overlook it. Oh no, I might not as well omit a roof. I have not included anything in here on account of having omitted that architect's fee; this was all made up before I noticed my mistake. I did not apply omissions and contingencies because I took that as a bid. What I did forget was that it was a bid by the contractor and that the Company would have had to submit to the architect plans before they got the bid, that slipped my mind.

(By Mr. Howard:)

"Q. You would have to have somebody watch the building while they were putting it up, that is part of the architect's fees, supervision, not only submit plans to him, but a prudent man would have somebody supervising the building that understood the business while the building was in progress. wouldn't he?"

"A. Well, the architect very often does it."

With reference to the item of engineering we have included 5% on items 2 to 7. That is the usual engineering allowance made in valuations by the Engineers making the valuation. I would include something for Engineering because there must be Engineering plans for the plant. This is a reproduction, an estimate of reproduction, the originators of the enterprise would naturally call on engineers to make the plans and supervise the erection of the plant. They could not do it themselves. The promoter could not do it. It would have to be done by engineers, and is always done by them. That is an expense that is incurred in the construction of any property of any size, that is, property of this kind. No investors, unless they were very badly advised, would start anything like this unless they had very good engineering advice even at the beginning.

Item 9 is Construction Administration. During the reproduction, or during the building of a plant like this as a whole there would be a considerable amount of administrative work to be done, the paying out of money, the dealing with the engineers, arrangement for payment for material; all of those things would require the time of people of considerable ability, and we put in there the round figures of 1%. That is the per cent that is usually allowed in a case of this kind, unless they have raised the engineering figure. Sometimes they include that in the engineering figure. Now, an engineering figure of 5% is very, very conservative. Your lighting plant here, we found that there were payments of 10% for engineering that had gone over quite a number of years. I imagine that a firm of engineers reproducing a large property like this, it might take 5%, it depends a good deal on their reputation. Investors will put their money into enterprises that are under the supervision of engineers of reputation, and it makes it easier to get the money. Engineers of reputation naturally charge just

as lawyers, for that reputation. It balances itself, easy to get the money just as you take a bond issue of a County, and it is generally put on a circular that it has been passed upon by such and such lawyers. Those lawyers charge for that. They are known to be good lawyers, and is one of the costs of putting out the bonds, just as this is the same way with reputations of engineers.

The next item is No. 10. Taxes and Insurance are supposed to be the taxes and insurance on uncompleted property as it is being built. We assume a construction period here of two years to reproduce the property. That is a period that would not be exceeded only if everything was favorable, and it would have to be quite favorable to get this plant built within two years.

If other engineers in this case had testified, some of them, that it would take three years to reproduce this property, and some of them four, I would not say that their judgment is faulty. I would say that is the least possible time that it could be constructed in.

From my knowledge of this plant and the size of it and everything, I do not think that I could reproduce this property economically within a two year period. I might be done, and that is the reason we took it, but I wouldn't like to take the contract, or be responsible for urging a contract which limited anyone putting it up to two years. It would cost a great deal, rush work would.

3058 "Q. I heard you use the word "conservative" a few moments ago. Mr. Howard has in a way objected to that word at times. I went over this report with you, did I not, in places, asked you if any of those figures were conservative? Do you remember my asking it?"

"A. No, I don't recollect it at all."

"Q. I did not prompt you to use the word "conservative"?"

"A. Well, it is a word that has to be used in getting things whether you put out a conservative estimate or a liberal estimate. It is a thing that expresses the issue."

Item 11 is the Interest. We took a construction period of two years, and we have calculated interest during construction for the minimum, that is, for one year. That is the interest on the money as it goes into the plant of which the investors are deprived. They are deprived of that interest and it is a part of the investment. That is a conceded item in all valuations.

The rate of interest we used was 8%; we considered 8% as probably the lowest figure for reasonable return, and as soon as money goes into this enterprise, put into anything, it partakes of all the risks of the enterprise, and is entitled to the same rate of interest as it would be entitled as a reasonable return. A man would only have to put himself in the place of an investor to see that, that he takes a certain risk, and expects a certain return, or he would not go into it. As to what I consider is a fair interest rate, I would say to use the same word, very conservative. I understand you  
3059 get 8% on mortgages in Texas.

Item 12 is the complete construction cost of the plant outside of Tools, Automobiles, Office Furniture and Fixtures, etc., outside of these items below it.



Item No. 13 is Tool Account. We took the book account of the Company for that, or rather they furnished us with the book account for tools. In making up an inventory the tools, furniture and fixtures, and those things, if they were done in detail, would require probably more work than all the rest of the plant. So it is customary, to save expense, to take book figures on those things unless you get at some other short method of estimating it. The list is so long of comparatively unimportant items, we took the figures furnished by the company here, and they are supposed to be book figures.

We did the same thing with reference to Automobiles and Horses, Wagons, Motorcycles, etc., item 14 on page 3 of the Exhibit, and also with item 15 on Office Furniture and Fixtures.

Item 16 is the total of all of the physical properties outside of Working Capital and Supplies.

Item 17 is an item of Working Capital. The supplies go into that. We took the figure furnished us by the Company. Then we placed what was, in our judgment, the proper amount of cash for a company of this size to have in its operation, cash in bank, or cash in accounts of subscribers, but there is always a permanent balance of good accounts, not necessarily the same accounts, which are owing to a company of this sort; that amount belongs to the Company, but it is in these permanently. They cannot get it out. \$125,000.00 would carry that. In fact, the general way of figuring these things when you haven't these detailed books before you—by the commissions, is to take six weeks' operating expenses, six weeks' operating expenses here would be very close to \$100,000.00, I think Ninety-nine thousand and some dollars. We take that orthodox figure and add \$25,000.00 to it for this item of permanent balance, and also for the item of immediate cash for extensions. There is always something for that. The smaller extensions, you will have to have money to put them in before you can get actual capital from financing or from your sources of capital as a whole. The \$125,000.00 is merely an estimate on our judgment from examining some \$350,000,000.00 of this kind of property.

The total Physical Property is \$6,092,058.20.

Yesterday I mentioned a bid of the Western Electric Company on central office equipment for the Houston exchange, and I gave that figure as \$1,242,000.00, which is something like \$10,000.00 more than we have estimated when we include our allowance for omissions and contingencies. The price given to us by the Western Electric Company was the price to one of the associated companies.

The part of the property I have been considering up to this time is the physical property. In my appraisal of the physical property I had not included any increment because the property constituted an assembled and established plant, doing business and earning money.

In item 18 we have cost of establishing business \$1,794,124.00. That is our estimate of the cost to establish the business as it stands today,—to get the capital. There are really three elements there,

the cost to initiate the enterprise and carry it through the initial stages. That is taken up by the promoter as a reward for the promoter and a reward for legal and organization effort and the cost of getting money. That is like the cost of getting bricks, or anything else. People not used to thinking clearly on these subjects are apt to neglect it, but it is an absolute cost. And then comes the other elements, or the cost to establish the business after the plant is built. I have made an estimate of what it would cost to reproduce this business the same as I have made an estimate of what it would cost to reproduce the physical part of the plant itself; the business is a necessary part of the plant.

"Q. You know that you would have a cost of that kind if you started in to reconstruct an exchange or build an exchange of this kind?"

"A. To create a property of this kind, the business is a part of the property. Without that part of the property, the property is valueless, except for scrap. I show this in detail on pages 6 to 10 of my report; I show in detail our reasoning in arriving at our 3062 estimate of the cost of establishing business and getting the money."

In any large enterprise,—and we are setting up here a reproduction of this enterprise as it stands today, a \$7,000,000.00 enterprise, there must be someone to start it; there must be someone to initiate and get going the forces which will finally result in the plant and in the business. Those services are always performed in a large enterprise, generally performed by men called promoters. The name has gained some bad odor on account of practices of promoters in getting part of their reward sometimes by deceiving the investing public as to the value of the security created. However, whatever the reputation of promoters may be, the office of the promoter is a necessary thing. It has come now so that respectable firms sometimes take up promotion and the old reputation is dying away. Promoters usually get their reward in a speculative way; sometimes they get a very large reward and sometimes they don't get any. In making our estimate here, we have tried to set up the hypothesis that we would reward the promoter with a speculative reward, and we have put here the sum of \$50,000.00 as the amount that would be required to get a competent promoter to take up this enterprise and start it. Promoters, as a rule, have to be men of ability,—men generally used to dealing in large figures and with a pretty good idea of what profits they want. We had some measure of what the promoter would charge in the knowledge of one case where there was a \$50,000,000.00 company promoted, and in that case the 3063 promoters were a firm of bankers. They charged a \$1,000,000.00 fee and got it. That is 2%. I don't know that they based it on percentage, but that was their fee. That is a case that I actually know of. That was the reorganization of the United Railways of St. Louis. Besides that, these same bankers got a considerable profit in the securities end of it; but that was their fee,—\$1,000,000.00, or 2%. Two per cent of our \$7,700,000.00 would make approximately \$150,000.00 or more. However, in making

this estimate of the cost of reproducing, we put it in at \$50,000.00; as a minimum. No one can tell exactly what the promoters would charge for it, but I hardly think we would be able to get men who could do it and do it well under \$50,000.00. That is a percentage of about two-thirds of 1% of the capital involved. The promoter would have to decide where the money was to come from, what was the best way to get it, and those things would differ very greatly in proportion to his ability. Fifty-five thousand dollars is a low estimate on the ability required for that kind of service,—the importance of the service. That is all the expense that is included in starting out a business of this kind and it cannot be avoided.

The second item, organization and legal cost, we have included \$25,000.00 for that. After the promoters have really started the thing, or during that time, there comes into being an organization called a company to take charge of this. It has to have efficient men to manage it during the construction period. One cost is the heavy legal expense. In creating a property between \$7,000,-  
3064 000.00 and \$8,000,000.00, you would have to employ lawyers of high reputation and those lawyers would require good, round fees. I believe your best lawyers here in town, if they were asked to undertake the organization of a \$7,000,000.00 to \$8,000,000.00 concern, would charge at least a \$25,000.00 fee. The importance of their work is very great, and the importance of their reputation is very great. Some people might say we could get a law clerk to do this and do that, but when you are putting out an enterprise before the investor, he has got to know and feel sure that the legal part of it has been passed on by competent authority. That is a benefit a lawyer gets for establishing a good reputation. They generally make their money along at the end of their lives, after establishing a reputation. The value they get is not entirely for legal service, but the value of the client in knowing it is right.

In addition to that you would have a considerable expense in organizing your forces and we have included for all this organization and legal expense, \$25,000.00; we think that is a low estimate.

Our third item here is Capitalization or initial risk. We have included in it fifteen per cent of item 18. That is the total physical property in Table No. 1, and items 2 and 6 in table No. 2. We endeavored to get 15% of those items which require actual cash in the creation of an enterprise.

3065 Capitalization of initial risk is the cost to induce an investor to take his money out of a tried enterprise and put it into an untried enterprise. If I should go as a promoter to an investor, or underwriter, the investor would say: "I want to put \$10,000.00 in this new telephone company." And then he would say: "What is it going to pay me?" And I would say, you are going to be allowed to earn a reasonable return,—it is a regulated utility. And he would say: "What is a reasonable return? Is it above what I can get in the other enterprise?" And I would say, no, sir; and he would say: "What is going to induce me to take my money out of something that I know has earned money, and I can assume that it will earn money, and put it in this new thing, unless I can

put it into something that will get the money," and then I say, you put in \$100.00 and you can earn on \$115.00; or in using the language of the financial world, I would say, we will discount this security; you get it for \$87.00, we will let you buy it at \$87.00, and you can expect it to pay dividends on par. Any man who has ever invested money and is a faith investor, knows he would not put his money into a new enterprise unless there was some inducement. It follows that you can not get money without an inducement, unless you deceive the man who puts his money into it. The sound advisor to investors today in utilities would say to them: "Don't go in unless you can get the consent of the regulating authority that this inducement to make you go in is to be capitalized." The facts

that there is a small chance of that under the present methods  
3066 of regulation is, perhaps more than anything else, what is preventing new utility enterprises. I believe Texas is suffering from lack of railroads, and if it would be well looked into, it would be seen that they are not being built because there is no inducement for people to put their money into them. There is no way that they could make a profit over what they would make by lending their money out on farm mortgages. In other words, the investors are not willing to take money which they can put in safe and sound investments, where they know that they are going to earn on it, and put it into anything new that they know nothing about. The risk to an investor is the risk as he sees it. The apparent risk,—not as it actually turn- out. He is going to withhold or put in his money as he sees the risk, and any new enterprise that hasn't a record of earning behind it is subject to a discount; its securities are, unless you can fool somebody; especially a utility, where the future earnings are being held to a certain basis, are not going to be allowed to compensate him for his risk. The public themselves don't realize this fact. Very few people have thought it out, and yet, as I said, it don't take an expert to see it. It only takes a man who has some money and knows how he would act if he were approached on an entirely new enterprise. This matter is handled in this way in the beginning of new utilities and investments. Most utilities were started when regulation was rare. The money was gotten then on the idea that they were going to make  
a great deal of money; that they would be untrammelled, and  
3067 even then the securities were discounted. We have every day our mail full of circulars of securities for sale at less than par. Nearly every time a new enterprise is started they come frankly and say, we will sell you this security at such and such discount and will give you some other kind of security: a bonus is very often used. Of course, I don't contend to measure the cost of initial risk by what any wild person might print on a stock certificate. This is not the measure, but it is what the conservative investor, in going into your enterprise, would be apt to estimate. I use the figure of 15%. Another man's judgment might be as good or better, but the idea is to put it in here to call attention to the fact that there is some cost there. There must be some inducement offered. The

measure of it is according to the opinion of different people. We have put, I think, a conservative measure on it.

Item 4 on page 6 is the initial deficit. If this plant was built, and you had already gotten your money and you began to build up your business, it would take some time before the business could be built to a point where it would give a reasonable return. No matter how fortunate the circumstances, the least time of getting the subscribers connected, getting them fixed up, you would take, we have estimated here, three years. During that time you might be making some profit, but the history of most of them is that they do not; but if you were going to put the money in with your capitalization of risks at 8% and you knew for three years you were only going to get 5%, you would say: "I am going to be deprived of 3% a year for 3068 three years on the return that I would be willing to take for my money. I want that capitalized or I will not put my money into the service of the public." That 3% for three years would make 9%. Otherwise, you would lose that 9%. That is an item that is allowed sometimes—that item is allowed by Commissions. This item is what is sometimes spoken of as deficit during the development period; that item is allowed frequently by Commissions, and sometimes it has even been called the measure of going concerns' value. I think the New York Court calls that early deficit, —supposed to be a part of the cost of establishing business. Some Commissions have even gone so far as to carry that on for years and years and years. We don't do that here; we give them a reasonable period, and if they don't make good, that is a part of the risk that they take, but for a certain few years at the beginning of the enterprise, the investor knows he is going to make his full return and knows he is going to be deprived of part of it and that it is capitalized. He is going to demand that.

Our next item is the cost of assembling capital. The reward for initial risk is something that goes to the investor. The man who puts up the money, takes it out of something else and puts it in. The money for a large enterprise like this is not all gotten from one place. It is assembled, may be, from all over the United States, assembled by means of investment bankers, salesmen, stock broker's salesmen going to different people and selling them a thousand dollars' worth here and a thousand and ten thousand dollars' worth there.

3069 It is done all over the country. It costs money to do it. These salesmen have to be paid and the investment bankers have to get their profit in order to stay in business. That money is gotten from all these sources and assembled, and in this case it would be assembled here in Houston to build this plant. The cost to do that, and it can not be done without cost, is just the same as freight or poles or anything else. The money has to be gathered from these different sources and brought together. That, we have estimated at 3%, which is quite low.

There is no duplication between that item of cost of assembling capital and your cost of promotion. The promoter's services are simply to start things. When he goes to get the money he has to go to the investment banker. It is the cheapest way, and legitimate

enterprises do go there because the investment banker, if he has a reputation, will not go behind something that has not been investigated. He investigates it himself. That is a part of his cost, and then he goes to his clients who have faith in him and says: "Here is something that I think is very good at the price," and sells it to him, and in that way gets the money which is remitted to be put in that plant. There is no duplication in that. No duplication in that and initial risk.

The cost of attaching business is the cash expenditures that the company has to make to get the subscribers connected up and ready to pay revenue and get them properly on the records. The  
3070 records of the company are a part of the plant,—getting them established. It is just like the records of a title guaranty company,—it costs money to make them. To imagine this telephone plant in Houston wiped out and another one being reproduced, we can take two views of it. One is that this is an entirely new thing, as it was when the telephone company started,—that the people have to be educated, and all that. That would create a very high cost and it is somewhat hard to grasp. However, unless you take that view of it, you are conceding to the reproducing parties a part of the value that has been created by the old company. However, we took it that way, and we have put in here a cost of two dollars per station to attach the business. That means the cost of getting the people on the books, aside from the physical connection. The usual cost, the actual cost that it does cost the company would be about four dollars, along in there.

I heard Mr. Kelsey testify yesterday it would be about five dollars per station; we have usually allowed about four dollars per station, but whether he is right or we are right, I don't know.

We have made due allowance for the fact that the people of Houston are accustomed to telephone service, and have not gone about valuating that part of it from the standpoint that the people would not know about this telephone service. We have put in two dollars there under the assumption that the people would rush in, knowing about telephone service, and take it. Two dollars is less  
3071 than it costs to get a proper record of the subscriber. We investigated the records in a case in Arkansas in which it cost two dollars and thirty-three cents merely to get the consumer properly on the books and properly connected. It takes time with the clerks and there are a great many different entries and cross entries and papers to be signed and records to be made. There is one inspection, perhaps, to see the property, where the telephone has to be located. There is an investigation, perhaps, of the people, not in every case but in a good many cases. We took this, of course, from the company's records, had to take it from the books, and all of those charges amounted to two dollars and thirty-three cents. We used two dollars here in Houston. That did not include the cost of making the physical connections. It is a cost of getting any record started. In our office we have very elaborate records and it cost us a great deal of money, not only to get them, but to keep them.

We do not throw off the thirty-three cents in order to be conservative; I don't know that I did it for that. In making a valuation of



this kind we generally make some concessions to keep from wrangling when it don't make any difference with the result. I do not think I could actually go out here and attach this business for two dollars per station; I think it would cost more. I did not know that the records of this company show that for the State, as a whole, it amounts to about five dollars per station to attach this business; I know that the records in San Antonio show what it cost there, but I didn't know what it cost in this State.

3072 The total amount that I get on page 6, is \$1,794,124.00, and on page 3 I get as the total reproduction cost of this property \$7,886,182.00.

I have not taken anything from this property on account of depreciation. I don't believe in it. There is a great deal of argument, theorizing on different methods of deducting depreciation. A number of years ago the general rule was to make a calculation by what is known as straight line depreciation, theoretical depreciation. That was a very savage method, created deductions of twenty-five or thirty per cent, even forty per cent. It was fallacious. It has been abandoned by most of the people who have studied this problem, and most of them have come to the point —

Mr. Howard: Has it been abandoned by the Supreme Court of the United States?

"A. What?"

Mr. Howard: Allowing for depreciation.

I am not talking about depreciation. I do not deny there may be depreciation in the plant, but it is the method of measuring it. I don't think that that straight line method was ever adopted by the Supreme Court. However, if you will let me get on: There are still others who take the stand that 100% of the property is not necessarily a new property. The investors' money in most cases,

3073 never buys a new property. Most properties never are new; they are built piecemeal. The investors' money can only buy permanently a property maintained at a certain high level of efficiency and replaced as the parts go out. There is a level which large properties sustain that is permanent, and it goes on as far as we can see into the future, so there will be no percentage of the property gone as long as it is allowed to replace itself. It is like a tribe of people, not like one man or one automobile or one building. People differ in these depreciation theories, like they do on religion. I think most people believe in their own salvation.

I made an investigation of the property here in this town; I inspected the property and, in my opinion, the property is above what we would call the normal state of operation. It is in better state than, perhaps, it can be permanently kept.

(By Mr. Frank:)

"Q. Now, Mr. Allison, several engineers have testified in this case with reference to the condition of this property. Some say in 89% and some in 92% condition and some in 92% condition. Regardless of your belief about this matter, if this property is in 92% con-

dition what would be the reproduction cost new, less depreciation, assuming that the property is in 92% condition?"

"A. I want to say in the record that I do not believe that is the right way to get the value; but if you did take 8% off of this property —"

3074 "Q. (Interrupting.) That would be 8% off of item 18?"  
"A. If you take 8% off the depreciable property—No, sir, it would be 8% off of item 2, 3, 4, 5, 8, 13, 14 and 15. Eight per cent of that is \$389,808.91. If you deduct that from \$7,886,182.20 you get a result of \$7,496,373.29. I make the deduction, but I do not think it ought to be made. I am merely making a mathematical calculation in the record."

I am familiar with the original cost of this property; we did a great deal of work on the original cost of the property in our office; I am not familiar with the additions which have been made to this plant in the last nine years. I have seen a statement as to the additions to the plant in regard to subscribers, the growth of the plant, and I may have seen a table showing the growth of the plant in money, but I do not think I did. I have not got a statement of what the additions have been to this plant in the last nine years, but I know the plant has grown very largely. That did not enter into my work, except as a general judge of whether the city was prosperous and whether business was increasing or not. We had a complete inventory of the property, a detailed inventory of the property. Here it is. I recollect it now.

I am familiar with the history of this community with reference to its growth; I have gone over the tables of population and I was here for five months in 1914, and I have been here for a number of days now and have taken a great deal of interest in the general aspect of things, and know, as anyone knows. This city is one of the best instances of prosperity that I have seen; any town in the United States —

3075 Mr. Howard: We admit that. We cannot take issue upon that. Are you familiar with this plant? You have made a thorough study of the plant itself?

"A. Yes, sir."

This plant is in excellent condition, a very good plant. I heard Mr. Kelsey say so. Anyone that would go over it could say that.

From my knowledge of the facts in this case, the history of this community and the condition of the plant, I would say that this plant has been very well engineered; I would say that the plant has been well constructed, it is a beautiful plant.

From my knowledge of local conditions I would say that there will probably be an increase in the demand for telephone service in this city, from the growth of the city, all facts would show that.

The plant is capable of earning a fair return; it has the potential earning capacity.

I have considered all of these matters, the history of the community, the original cost and cost of reproducing the plant, etc., in arriving at what, in my opinion, would constitute the value of this prop-

erty; I have a very definite idea of the present fair value of the property.

3076 "Q. Taking into consideration the original cost and what it would cost to reproduce this property, the history of this community and prospects of the future, and the condition of the plant and all of the relevant facts, what, in your opinion in dollars and cents, is the fair present value of the plant of the Southwestern Telegraph & Telephone Company constituting the Houston exchange?"

"A. Under the hypothesis that there is to be a reasonable return?"

"Q. Yes, sir."

"A. The fair present value of the property, under the hypothesis of reasonable return, would be approximately seven and three-quarter million dollars."

A statement of value like that must be in round figures; seven million, seven hundred and fifty thousand dollars. If you take off the depreciation that I mentioned a few minutes ago off of my seven and three-quarter million dollars you would get approximately seven million, four hundred thousand dollars as the value of the property. I think that the property, the fair present value of the property is fully seven million, seven hundred and fifty thousand dollars. I don't believe that ought to be taken off, but if you do, it is that much less. Just assuming that I do deduct that, if that is properly subject to that depreciation and assuming I make that deduction, in my opinion the value of the property would be three hundred eighty-nine thousand eight hundred and eight dollars less than seven million, seven hundred and fifty thousand dollars. I will make that deduction if you wish me too; seven million, seven hundred and fifty thousand dollars less the amount assumed here for depreciation would give seven million, three sixty thousand, one hundred and  
3077 ninety-two dollars, and if you make that deduction for depreciation, in my opinion, the fair present value of the property is seven million, three hundred and sixty thousand dollars; more than that.

Cross-examination.

Questions by Mr. W. J. Howard:

I am a graduate of Harvard, with the degree of A. B., going to Harvard at the time when they had the lectures and took the lectures for Mechanical Engineer with the addition of a course in banking and economics, and then began the practical engineering education under my father, who was a mechanical engineer. I do not hold an engineering degree,—A. B., and you will find that it takes a year longer. You will find in the Harvard Engineering Association a great many of the boys took the A. B. instead of the other. I took the A. B. in preference to the C. E.

I think I was first employed by the Southwestern Telegraph & Telephone Company on this case about the middle of October or the first of November; I do not remember when they first spoke

to me about it. I completed this appraisal just in time to get on the train.

Mr. J. D. Frank: Took about three months.

Mr. Elias employed me; I would not at all mind detailing the conversation I had with him. He called me in there and asked me,—said he wanted me in the Houston case; he said it 3078 was a complicated case and he wanted me to make a valuation of the property. This is very nearly all he said. He was very careful not to try to lead me in any way. He has conferred with me since that time in regard to my progress on the work, he has been hurrying me. That would hardly be a conference, we have seen one another, but he didn't know anything about the progress of the figures. In fact, we don't know ourselves until we get to the end. That day is always one of great curiosity.

"Q. Then that is about all the conversation, except he communicated with you from time to time to learn the progress of your report?"

"A. When I would want information—we had access to their Auditing Department to get any information we wanted. We could get any information we wanted from the Company by asking for it. Frequently I called him and I went to see him perhaps four times."

I talked with other members of the organization, talked with Mr. Waters, the Auditor, about getting some of the papers. I talked with some of the counsel a day or two before I completed my appraisal. I was trying to get more time and I thought Mr. Frank was fooling me about having to be here at the particular start. They merely told me they had a confiscation case at Houston and that they wanted me to value the property for them. After our 3079 work was completed, of course, the attorneys saw it then,—after our work was completed. They did not make any suggestions as to how I have handled any of the matters; I don't think they did.

Mr. D. A. Frank: It was printed before I saw it.

They have gone over it very carefully since then; they went over the figures, I think I probably got as much grilling from them as from you.

"Q. They told you to come and value this property and gave you carte blanche and plenary powers? They placed no restrictions upon your methods of going about it and no limitations upon the expense?"

"A. I hope not."

No limitations of any kind, just told me to go ahead. I will tell you, Mr. Howard, it isn't customary for clients who know engineering ethics to try to direct an engineer's valuation report. An engineer will resent it, that is, the proper kind of engineer. An engineer isn't an advocate, and he goes on the stand, and if he realizes the solemnity of an oath he understands he is to swear

to what he brings there and he don't like to be directed. They may tell us they want a reproduction, or an estimate on some different theory. That can be done.

Engineering ethics are very nearly what legal ethics are.

"Q. You went about it, dictated by your own conscience and used your own judgment?"

3080 "A. We wanted to get the best——"

"Q. (Interrupting.) And your idea of what was the right thing to do under the circumstances?"

"A. Yes, sir."

I prepared this valuation and submitted it here as seven and three-quarter million dollars as the value of this property on which this Plaintiff should make a return; that is true.

I have stated that I spent many years as the representative of the city in the valuating of public utility properties upon which the community of St. Louis was to pay a return.

I would not say that many engineers allow as low as three per cent for omissions and contingencies. It is entirely a matter of judgment. I do not recall any that have allowed it, but I would not deny that they have. I do not know that there is some difference in this case by the Plaintiff's witnesses; I do not know what the evidence is in the case.

"Q. Don't some engineers take the position that when you are inventorying an established plant and one already constructed, that the item of omissions and contingencies should be practically eliminated; in other words, very small?"

"A. I don't recall any who take that stand, and if I did, I would think he was rather a foolish engineer, or at least on that point."

3081 "Q. Some other engineer might come along and say that an engineer that does not allow for depreciation is rather behind the times?"

"A. No, sir, they would say he is ahead of the times. I have heard them say that."

"Q. He was leading in the great part of originality?"

"A. I don't know that they would put it that way. We find out the truth. For a long time the people believed the world to be flat."

"Q. Some time some man might come along with a great vision and find that when you have a plant constructed of switch boards and toll lines and underground conduits and poles, that he might have great enough vision to think you could go over those things and count them accurately, and if you failed, then there might be an omission in an over-count as well as in an under-count. A man might get that big a vision?"

"A. I think it would be visionary."

"Q. The whole thing is visionary. You are looking at it, so it comes to the question of counting. What have you got to do but count it?"

"A. We know in counting things that we very seldom get them all."

"Q. Sometimes you over-count, too, don't you?"

"A. Very seldom."

I would draw a distinction between inventorying a plant that is already constructed and making my preliminary estimate or set-up of a plant I proposed constructing; there is a difference between those two propositions. I think you probably  
3082 allow less, if you were cautious, you would allow less when you had the actual plant and could count it. You see, we have had experience in making a re-count, and when we make an inventory and re-count we always find something more. A very carefully checked inventory, three or four checks and one we make ourselves and go over two or three times, we might allow one figure for omissions, and one that was checked over just one time we would allow another figure.

"Q. What omissions on a switchboard suggest themselves to you?"

"A. You know, if I knew them I would put them in."

We might not count all of the silk. I would hardly overlook a switchboard. As to what omissions occur to me in underground conduits, we might not get the deviations, what obstacles would be encountered. That would be an omission; we cannot see them and they are counted in as omissions.

We get our underground conduits from a map, in this case we got it from an inventory. Ordinarily they keep a map of those things; there might be a falsified map, but I never heard of such a thing and I take it as correct but there is not just as apt to be an error in over-amount as in under-amount; the map of underground stuff, like pipe and conduits, are drawn straight from point to point. We know the pipe and conduits do not run actually straight from point to point; they may encounter sewers and things of that sort that may not be on the map.

There is very great chance for omissions on a pole line. In the inventory of the Houston property, the Houston lighting  
3083 property, we went out and counted those very carefully, and

I think we counted seven hundred poles the Company had omitted from its inventory. I have forgotten out of how many that was. I imagine they have a good many thousand poles. That was five years ago.

I have allowed 5% for contingencies and omissions, and have known of more than that being allowed; I think engineers allow six.

"Q. Some allow three and some might take the position that I have—that when you have a plant constructed already, it is practically reduced to a negligible quantity."

"A. They might, but I don't know of any that have."

I allow for working capital, \$125,000.00, cash capital.

I have taken into account that their bills are billed on the first in advance, and that they get it all paid before the 15th of the month, but that don't change my idea of what it ought to be in a company of this size, I based that upon six weeks' earnings; I took six weeks' earnings. You are mistaken in your statement that I said some



Commissions take six weeks' earnings,—not earnings,—operating expenses; six weeks' operating expenses or approximately \$100,000.00 in this case. There is really not much reason for it, but it has been taken by Commissions. That is not on utilities that get all their money after they perform the service; the same thing is allowed street railway companies. I do not mean six weeks' revenue, but six weeks' expenses. It has been allowed in street rail-  
3084 ways, gas companies and in lighting companies.

"Q. All of these companies get their money after they perform the service?"

"A. The street railways do get the actual cash."

"Q. Yes, that is true; I will eliminate that. I have reference to gas and lighting companies. Would you say that a street railway company should have as much working capital in proportion as a gas company?"

"A. It depends on what the street railway has to do."

"Q. This money is to carry them along so they will not run out of money and will have something to operate with; and if they get their money in advance, why would they need much working capital?"

"A. They have a great many expenses."

"Q. They get a great deal of money every day?"

"A. Yes, sir, and they pay out a great deal every day. Since you want to get off the telephone business——"

"Q. (Interrupting.) No, sir, we will not get off the telephone business; that is somewhat parallel. They get a good part of their money in advance of performing the service. You have taken six weeks' operating expenses as the basis——"

"A. (Interrupting.) I did not take that as a base. I simply found out what it was, because it is a figure that is sometimes used. I have estimated \$125,000.00 as a very small amount of actual cash capital that would be necessary to run a plant which has nearly eight million dollars invested in it. That is one point that  
3085 I think is sometimes forgotten. A telephone plant like this is constantly growing."

"Q. It don't grow very much in six weeks."

"A. The installation of additional property. The money must be there. They must have the money ready to put in."

I have not made any deduction for the fact that they collect their money in advance.

I get this \$82,000.00, stores and supplies, from the statement of the Company. They do not set that up as the amount of money they think they should have,—the actual amount of stores it had at a certain date. A great many of them get most of their supplies from the Western Electric Company. I imagine there is a branch of the Western Electric Company in the City of Houston; I don't know,—I have never seen it.

I said the fair present value of the property is seven and three-quarter million dollars; I got it by estimating the cost of reproducing the property at this time at these prices. As to whether or not they were the only things I considered, it depends upon what you

mean by the word "considered." The value stated here coincides very closely with the cost of reproducing this property new. I think that is the large factor; the cost to reproduce.

"Q. Your statement is not accurate. You don't mean to say that?"

"A. What?"

"Q. That the value you have given here—seven and three-quarter million dollars—coincides with the cost of reproducing the property new. You don't mean to say that?"

3086 "A. Did I say it?"

"Q. Yes; I knew you didn't mean to say it.

"A. Approximately."

Mr. D. A. Frank: He said it did not.

"A. Approximately it coincides."

As to what I call "Approximately," I have got there seven million, eight hundred thousand dollars, and I get as the cost of reproducing this property new seven million, eight hundred eighty-six thousand, one hundred eighty-two dollars and twenty cents. I got that by getting my inventory and applying present prices.

"Q. You are mistaken about that. Surely if you stop to think, you are mistaken about that."

"A. That is my idea of the way I got it."

"Q. I think you are confused."

"A. I think I am right."

"Q. Take your inventory and apply your prices and see what you get. You have done that?"

"A. Yes, sir."

"Q. What did you get?"

"A. You mean to say the cost of the physical property?"

"Q. I am talking about what you said."

"A. We got the cost of the physical property."

"Q. What was it?"

"A. The reproduction cost of the physical property is \$6,092,058.20."

"Q. That is not really correct. You mean to take sub-total sixteen would be more accurate."

3087 "A. I don't see any sixteen."

"Q. Sub-total sixteen."

"A. No, sir. Working capital and supplies could be called physical property. Supplies certainly are physical property. Working capital is——"

"Q. (Interrupting.) That is an estimate?"

"A. What? Supplies?"

"Q. Working capital."

"A. Yes, sir, it is an estimate."

Mr. D. A. Frank: It is an estimate of a very real thing.

"Q. So the only thing you have done, the only thing you have done is to take the inventory of this property and apply unit prices and material cost, which brings you out \$5,884,000.00, and then

you add working capital, which you estimate to be \$125,000.00, and add the supplies, \$82,000.00, which makes the total physical property \$6,092,000.00. Then you add to that \$1,794,000.00, which gives \$7,888,000.00, or, in round numbers, seven and three-quarter million dollars, which you tell the Court is the fair value of the property on which to have a return?"

"A. I tell him that is what I think."

"Q. You have eliminated from that everything that might bear upon this ultimate question of value, except the cost of reproduction new?"

"A. No, sir, I haven't eliminated it; I have taken it into consideration."

3088 I have given it very little effect. The fact is this, that the present value, present fair value, is more closely measured by the cost to reproduce than by any other factor; and if you will assume that a value must have an exchange, or potential exchange—value itself is relative. When measured in money it must have a measure of exchange, or potential exchange. If it could be imagined, or is imagined, that the present operators of this property are going to withdraw, or made to withdraw, and another group comes here with the choice of either putting in a new plant or buying this plant, I would say, and I would advise, if I were their engineer, to buy this property at reproduction cost rather than take the chance of building one, and that is the measure of the plant's value. Yes, sir, I say they are entitled to capitalize all this rise in wire and copper and poles; certainly it is of value, and if they are entitled to the present value of the plant, they are entitled to that. If this community should not patronize them and they did not use it in serving the public in delivering this service, they would not realize on it. They would have nothing but a lot of junk, but it is the assumption that they are going to be allowed to earn a reasonable return.

As to whether or not I would say that they are entitled to all the advance in materials that have gone into the plant, it is not a question of what they are entitled to. We are trying to find the present value of the property.

I deliver lectures on economies at Washington University in St. Louis; it is on Skinker Road. It is quite a large institution, with an endowment of between fifteen and twenty million  
3089 dollars. I was very much surprised that you didn't know it was there. Secretary Houston was the Chancellor of Washington University.

"Q. You are something of an economist. Would you lay it down to your students as a safe economic proposition that if they had their money invested in a property where the market for realizing upon the property and converting it into cash is limited, and narrowly, limited, that that fact would not affect the value of their investment?"

"A. I would be very glad to explain it to you. I think you have asked two or three questions. Put it distinctly."

"Q. Probably I asked three or four, because you did not answer the first one."

"A. You are asking me if there was a property here which was not going to earn any return, how I would value it?"

"Q. No, sir; I am asking you here, if there is a property here that depends entirely upon only one source of receiving a return, and they undertake to take their profit upon a rise in material—they have invested certain money, a certain number of dollars in wires and poles and copper, and upon which they have been permitted to earn a return, and they now come in and say: "We are going to capitalize this rise in material, and the people of this city——"

Mr. D. A. Frank: We haven't said that.

Mr. Howard: That is what you are doing.

"Q. And these people of Houston say: "We will not use  
3090 your utility upon those conditions." Then what becomes of the value of this plant?"

"A. You must remember that in stating that this was the value, fair value of the property, it was distinctly stated under the hypothesis that it was to earn a reasonable return. If you assume a case of utility not being allowed to earn a reasonable return, you assume there is no justice in the Courts. And if you assume that—and you are also assuming a market value. The market value of a plant as it exists today takes into account the present earnings of the plant. Those present earnings are in question, they are to be adjudicated. They can not be taken into account in the adjudication, or we would come to the conclusion that they can not be changed, because we would arrive at a value based on their present return. The present fair value of the plant is more closely measured by the cost of reproducing it than by any other element."

That is what I think.

I said I was employed in San Antonio to advise whether litigation should be continued there or not in regard to the installation of the \$7.50 and 3.00 telephone service. I made them a report; I don't think I said anything about the litigation.

"Q. At the time you were representing the city of St. Louis as its valuator of public utility properties you entertained the idea that omissions and contingencies should represent 5% of the prop-  
erty, of the physical property, and you entertained the idea  
3091 then that no allowance should be made in the item of working capital where the utility collected the greater portion of its money in advance?"

"A. I am not endorsing these things that you say I entertained."

"Q. You have the idea that notwithstanding the fact that Courts and Commissions have laid down the rule that original cost should be considered in determining the fair value of a property; that when reproduction value is much higher you would make that the sole test. You entertain the idea that going concerns of practically 50% of the physical property, or 40% of the physical property, should be added to it in the way of intangibles. You entertain the idea that after a plant has been reproduced upon the reproduction theory

and it was found to come to a certain amount at present day prices, that although the plant in operation was not a new plant, that it should not be depreciated. You entertain those ideas, and entertaining those views, you undertook to counsel a municipality as to the matter of adopting certain rates, did you?"

"A. Is that a question or a statement?"

"Q. I asked you if, entertaining those views—; I asked you if you entertained those views at the time you made the recommendation to Sar. Antonio to install this \$7.50 and \$3.00 rate?"

"A. In San Antonio?"

"Q. Yes."

"A. Yes, sir."

I told the City Council at that time that I did not believe in  
3092 depreciating property; I told it in the report. I do not know whether or not they were men accustomed to analyzing report-of experts upon utility properties. Some of them were very good business men. I gave them that report, both the original cost and the reproduction cost. The case was such that if they took the original cost, it settled it so far as the law suit was concerned.

"Q. Didn't you say in your San Antonio report if original cost was to be considered in arriving at the value of public utilities——"

"A. (Interrupting.) No, sir, I distinctly avoided it."

"Q. Didn't you say it is often considered, and that it was one method of arriving at the cost of public utilities?"

"A. At the cost?"

"Q. At the fair value of it?"

"A. No, sir, not the fair present value of the plant, and I have used all through that report a term to distinguish it from value. It isn't value at all, it is merely the cost, and I say in this report—Now, in many years my views may have changed and I have learned something, and at that time I had the same views that I have now."

And my view hasn't changed since then. I will show you that I haven't. I say here in speaking of reproduction cost that the theory of cost to reproduce a property at any certain date is one much used in working out estimates of capital entitled to return. Sometimes mistakenly called fair value. I am speaking of reproduction.

3093 "Q. Why do you say it is mistakenly termed fair value, when you say in this case that reproduction new, without any depreciation, plus a lot of contingencies and omissions——"

"A. (Interrupting.) I will read it over: "Capital entitled to return, as used by the Commissions, is not fair value." And I have to explain to you that the Commissions over the country have very often gotten away from the idea of value. They have taken what they called capital entitled to return, or they have even taken——"

"Q. (Interrupting.) On the first page of your report don't you recognize and state that reproduction is one of the methods and receives the sanction of the Commissions, although you don't think it does in the Courts?"

"A. In estimating the cost of reproduction—this is from the San Antonio report—in estimating our cost of reproduction we have not used actual present day prices——"

"Q. (Interrupting.) Will you tell us where you have placed any fair value upon this property?"

"A. I do not. I say that the reproduction cost is the best measure of fair present value. It couldn't be measured in present value unless you used present cost."

"Q. They have shown here that you, as the city representative, have recommended and approved these rates in another city. Upon any of these contingencies that have come up between the city and the utility, where the city contended for original cost, where the city contended for but a small going concern value or cost of  
3094 establishing business, where the utility contended for a large going concern value and cost of establishing business, and where the utility contended for 4½% for American Telegraph and Telephone Company service and the municipality has opposed it,—what was your idea in valuing the property? Did you coincide with the contention taken by the municipality in these matters?"

"A. Of course, that would not be my object,—to coincide. My object is to do what is right. I want to do what is the right thing to do, but since you mention it, there are other places where they coincided. I was on the Board appointed by the Aldermen of the city of Buffalo to make a valuation of the street railway property there. I was the representative of the company, appointed by the company on that Board of Arbitration. The representative appointed by the city was Professor Richey, and we coincided and we came out with practically the same set-up as I have here."

On the Board of Arbitration, I was appointed by the company and Professor Richey was appointed by the city. Our set-up of the valuation of the railway was practically what we have here. In making the valuation for the city of St. Louis of the United Railways in 1918, the set-up was practically what it is here. That was in 1918. The Buffalo matter was not before the beginning of the war, it was only a year ago.

"Q. Mr. Allison, as a representative of the city and inquiring about these rates in the city of San Antonio, you never advised the city, or never suggested that it was not fair to have rates based  
3095 upon price levels where there had been an abrupt rise due to a specific cause?"

"A. If I suggested it was not fair to take the present fair value of the property, and that would be the reproduction cost, I would have been going against what the United States Supreme Court said."

The United States Supreme Court has said that we must get the present fair value of the property. That is one expression used, and another one is that the value must be taken as of the time of inquiry; that is another expression which means the same thing. Another one, that the value must be taken as of the time of use; those are the leading cases.

"Q. Didn't the Court say anything about it being confined to the property used and useful, and that the public is not to pay more than the service is reasonably worth?"

"A. I expect they have said that."

I do not think that present day prices are abnormal as compared



to the future. There has simply been a change in the price level, and the word "abnormal" does not apply.

In the San Antonio case I may have adopted in toto the operating expenses and report of Mr. Baker and Mr. Pennell; I do not recollect.

"Q. I notice you refer constantly to Baker and Pennell, and appear to adopt them."

"A. I probably would."

3096 "Q. I don't notice anything in the report where you suggest any issue with any claim made by the Company."

Mr. D. A. Frank: Are you contending he should take issue with the company in representing the city, and eliminate some item?

Mr. Howard: As long as you ask the question, I am in no way questioning Mr. Allison's honesty or his integrity; I am simply making this statement,—that when you come here and produce him as a witness, trying to give it emphasis, probative force by reason of the fact that he was employed by the city and recommended a rate to be installed in a city of this State, that I want to show what his views are.

Mr. D. A. Frank: That he should disagree with the city.

Mr. Howard: No, sir; my idea is that he is looking at the thing through the eyes of the utility. His environment is such that he looks at all these problems from the standpoint of the utility. That his environment and associations are much—

Mr. D. A. Frank: Ideas he got while representing the city of St. Louis and the Public Service Commissions.

Mr. Howard: I am showing his state of mind is such that he has practically approved every proposition that has ever been put forth by the Bell System.

Mr. D. A. Frank: If you can prove that by him, go ahead.

There is a proposition that the American Telephone and Telegraph Company has put forth that I have taken issue with; I take issue with them, but — is not always on account of trying to  
3097 get lower figures; it is because I think certain things are right and certain things are wrong. Let me tell you something: As the Commissioner in St. Louis I started out with this popular idea and ignorant idea that the public utility corporations are all full of all kinds of tricks, and I was on my guard for everything; but I found that they were not, after four years of dealing with them. They gave me facts. I didn't take them for granted, but they did not misrepresent. Even our street railway, which had a very bad reputation, there was no misrepresentation by them in the facts that they presented to us. They knew we were going to the bottom of them, but the facts were, in this four years of dealing with these people, I found they did not go to those little tricks of misrepresenting. When they told us anything—I didn't always agree with them—when they claimed anything, they had some reason behind it. They put up much higher claims in some cases than we allowed them; nevertheless, there was something behind them. I am not in the position of thinking that everything that is put up by a company is a lie, and I do not believe it. You are

not to understand that I have undergone a change in belief; I have simply gotten information. I had an ignorant idea in the beginning. I have not been converted to the idea that everything they contend for is all right; I don't think that is necessarily true.

"Q. Inasmuch as you brought in this San Antonio rate——"

"Mr. D. A. Frank: He did not, you brought it in yourself."

3098 I understand that San Antonio is about the same size city as this.

"Q. In recommending that \$7.50 rate you considered that they were entitled to about One and Three-quarter Million going concern value over there upon which the people should pay a return?"

"A. Entitled to what is set up in the report, which is about the same percentage of the physical property as it is here."

This cost of establishing business is a fact. Now, there are two things; there is an amount that has been spent in establishing business. That is the original cost. Now then, to get the present value you would have to get what would have to be spent today to establish the same business, and they are two different figures entirely. We have a cost of establishing business of \$877,000.00 based on physical property of \$3,353,000.00. That is reproduction.

I did not figure the value of the San Antonio plant on 1918 values; 1916-1917 prices. We figured it there on 1916 and 1917 prices and come in here and figure it on 1919, because we did not know what the prices were at that time. Factories were full of war work and it was a time of excitement, and we did not know whether the prices were temporary or not. Since then, there are no indications of lowering prices and every indication is that they will stand where they are or go higher, which makes a different proposition out of it. I consider that we are at peace; we are not in war.

I did not say that I was a political economist; I say I am a student of economics,—a teacher of economics. All teachers are  
3099 students, they should be; they are not all students, but they should be,—you never get it all. As a professor of economics I have kept in touch with the current opinions and expressions of public men.

"Q. Have you ever heard it urged that the present high cost of living was due largely to the fact that we haven't settled conditions on account of peace not having been arranged?"

"A. I think it is the veriest newspaper rot. We have peace."

The facts are, we have peace and are going ahead and doing the same work as if it was signed. There will not be any change at all when they sign that treaty. We are already shipping goods into Germany. I was talking to a man the other day that had been over there to sell to them.

In so far as telephone supplies are concerned there was a marked change in the prices in some of the things the first of December. This work was done as of December.

"Q. Do you think there has been any change taken place at all

in the world in regard to prices and in regard to commerce—you think our stories are taken as freely in Europe now as three months ago?"

"A. I don't know about that. Europe's ability to pay——"

Cotton is a staple. Cotton exports are not being received rapidly in Europe; we are just beginning to find out they cannot pay for them. I think cotton is declining and I think it probably will decline. I don't know that it is declining, but I think so. If

3100 you say it is I will accept it. I haven't any recent information about trade in the East now in regard to how it was six months ago.

"Q. Have you talked with any merchants that buy in the East who say there is a change in conditions, the change is very marked, in that they are sending out their representatives and soliciting trade and urging large order, whereas, six months ago they were indifferent and would not fill their orders?"

"A. It would depend upon what line you go into. If you are talking about dry goods, I know nothing about it."

I know nothing about dry goods and shoes. I know the steel mills are very far behind in their orders, and all the construction materials are far behind. Construction is very expensive now, and there is a great need of construction, and those prices are going to keep up a long time. I would not say that there was a shortage of buildings prior to the beginning of the war; at least in St. Louis we could get office room very readily, and houses were for rent, not excessively so, but could get them, and apartments,—you could get them, a lot of apartments for rent, and now you cannot get them at all. You might say it was somewhat overbuilt just prior to the war, even up as late as 1917 and then for about a year or a year and a half building stopped and there was a cessation of building activities; it seems that that all over the country has created a demand for houses and buildings of all kinds. It will not be caught up with within a year and a half, that is, as soon as this year and a half's shortage has been caught up with. It will take longer than that; people are not going to build so freely. We have all

3101 got to go up so we can show the man a profit in going in; there has to be a general readjustment.

"Q. In other words, these high prices retard building because people are hoping prices will come down?"

"A. I think they are afraid they are going to come down."

Based upon that proposition if we were without a telephone plant here now I do not think capital would be eager to come in and build a telephone plant such as I imagine here on present prices and take the chance unless they were assured of a fair and reasonable return upon what it would cost them to reproduce it; they would want it practically assured upon these prices.

"Q. If you have a plant that is built here that you have valued at present prices and added certain things to, and say that is the fair value. You say that it is not the value unless they are

3102 permitted to earn a return?

A. The fair value. The market value would have to be provided for by a fair return on the fair value."

Assuming that these people are entitled to earn a return upon the fair value, then the next question we have got to determine is what the fair value is. We set this property up, take the inventory and apply unit prices and material cost and get a certain figure and say that it is the fair value. If the fact that no other company will come in here and take chances of building a plant like this unless they were guaranteed a return upon the cost of reproduction, to my mind, it would not indicate that the present value of this plant is not as much as it would appear from the application of these material prices and unit costs; the situation would then be that we have here the present fair value, and the tribunals are not going to allow us a reasonable return. We do not assume that,—we assume we will get justice.

Under the injustice or unreasonableness of confiscatory rates which you assume, the market value of the property would not be the fair value of the property.

“Q. Assuming that you have got a plant that could be sold to others, but the fact is that the prices have increased until they have got up to an abnormal level——”

“Q. (Interrupting.) I do not admit that.”

I do not admit that, not compared with what the level will be. It is a higher level than it was before. Abnormal is a sudden bulge.

3103 I have not stated that a man would hardly come into this community and buy a plant of this kind and take his chances upon these prices remaining at this level. If we establish the fair present value, and he assumes he is going to get a reasonable return, he will come in. If he assumes he will only get a confiscatory return, he will not come in. Assuming he will come in here and there will be established a fair return so long as these prices continue; but if these prices drop down, there would be a readjustment lower of his rate an investor would come in and take a chance at this time, because the reasonable return will take into account the risk. He may think the prices are going higher. He will take the risk one way or the other. That must be taken into consideration. The reasonable return must be enough to induce him to do it. My idea is you should fix the return now that would justify him in taking a risk of having the prices drop; he may think they are going up. I do not want to have these prices permanently guaranteed, or a return upon these prices fixed permanently; there are not guaranteed. The measure of fair return is what we think the investor would go in for. That is very simple. The measure of fair return is what the investor would put his money in for.

“Q. I am asking you whether any prudent man would come and put eight million dollars in a telephone plant of this kind in this city with the facts staring him in the face that these are highest prices ever known and there is liable to be a drop in these prices, whereby his rate would be lowered and his return then  
3104 would be limited to six million or five million instead of eight million.”

“A. The business man takes those chances all the time. If the investor knew he was assured of permission to earn a reasonable re-

turn, that is the return that would induce him to go in. In fixing the return that would induce him to go in, he would take into account the risk of the property going down."

That does not amount to the same thing as guaranteeing him a return upon the property.

"Q. Mr. Allison, you have reproduced here a very pretty new telephone system. What is the purpose in doing that, Mr. Allison?"

"A. Well, it is not a reproduction of a new telephone system. It is a reproduction of the telephone system now in existence."

The idea is that we are going to reproduce that,—reproduce it new. It is an estimate of reproduction to get the fair present value of it, estimate of what it would cost to reproduce its property; to go and build a new plant, that is what my reproducing would be, to go and build a new plant. We are taking a simple estimate of reproducing the physical plant and business in order to make its fair present value. We are simply making an estimate of what it would cost to reproduce it in order to measure the fair present value. Although that plant, when we get it reconstructed going on that basis would be new and this one is not new, in my opinion, it would be the same value. I stated that is rather the test of a man coming in and building the plant new and undertaking the Telephone business, and seeking a return upon that price new, that he would do it if he got enough to guarantee him or justify him in taking the risk. In other words, what I mean is that if the return was such that would induce him to come in. I do not mean it should be something over a fair return on the then values; the fair return is the return that will induce him to come in, that will induce general money to come in. If it is not that much he would not come in.

"Q. You then consider a fair return on the existing plant as one that would pay such a return as would induce an investor to construct such a plant at the highest prices possible known in history?"

"A. Well, I say, we mentioned first the present fair value of this plant. We measured that my reproducing the plant.

Now then, having determined the fair present value of the plant, a reasonable return is that return which would induce somebody to do it. As to whether you may get a fair return in dollars, or in rates of return, you would get from that principle, you might calculate down to dollars in rates. I do not know what figure would be a fair rate of return in this plant; it would be whatever would induce the capital to take it. I remember in my set-up I gave a capitalization for the initial risk so that the fair return would be a return after saying to the man you can earn on 15% more than you put in. My idea in putting in that 15% is that would induce the man to come in and start a new telephone business and he would have a reasonable return on this. That is not an imaginary case because it is done. It is the principle.

"Q. It is imaginary in so far as inducing somebody to come into this territory and put in seven or eight million dollars, but you say

this risk would induce him to come in even at these highest prices known in history?"

"A. I calculated it that way."

I say now we will take that 15% and add it to the value of this plant as it is, already in business, and give them a return upon that 15%, because we are trying to estimate the present fair value of this property, and in order to estimate it we have to estimate it at what it would cost to reproduce it in order to get the money.

"Q. So then in addition to permitting them to add to their values the increased price of material and labor over what it would cost them, you have got them up to quite a big figure there, a couple of million, two or three million, but now you say that having been done and these figures having been brought up to these high prices, now inasmuch as any investor that might be induced to come in here to operate the plant would have to have 15% for initial risk, why we will add another 15% to these already appreciated prices in order that we may get a fair return on the property?"

"A. Why, we are measuring the value that is there, the money is already there, and we are measuring the value that is there, on  
3107 how much it would cost to reproduce it."

We are giving them the price that it would cost to produce it to-day. It is more than what it did cost, but it is the measure of the present value. I do not know whether you could call it appreciation over the cost or not; it is higher than the original cost, if that is what you want. Appreciation is the converse or opposite of depreciation.

"Q. So your theory would be this: you are trying to gauge these people's rights by what some imaginary person might come in here and do, and if he would come in here now to build a plant and operate it he would have to pay these high prices, the highest known in history. Then you say he wouldn't do that unless he has got inducement to do it. Therefore, we will add 15% to induce him to come in here and go in the telephone business, and there being no such person as this one we imagined, we swing back to the concrete and say here are some people that have invested \$3,000,000.00 in the business——

Mr. D. A. Frank (interrupting): Where do you get your \$3,000,000.00, Mr. Howard?

Mr. Howard: Oh, we get it from the evidence.

Mr. D. A. Frank: \$4,600,000.00 is the only evidence in the record on cost.

"Q. But we will say \$3,000,000.00; that while they have invested \$3,000,000.00, it so happens that owing to a war these prices have gone up so that it would cost \$6,000,000.00 now to put this  
3108 same material and labor in a plant, and while they should have a return on that, now after fixing this rate we haven't hardly got enough yet, because some other man wouldn't take their place on these prices, and we would have to put an additional 15%



to induce him to do it, we will just give him that 15% and bring it up from three to right?"

"A. It is not a question of giving these people anything. I say, it is not a question of dealing with per cent at all. It is a question of finding out the measure of value of this present property, and that is what we are trying to do, and what somebody may have made out of it or lost out of it has nothing to do with the present measure of the property."

"Q. But we will get the value so long as we keep in poles and wires and switchboard, and we have sprung that value from \$3,000,000.00 up to \$6,000,000.00, and we say that is the cost of building it, that is the physical property, and I want to know why you add that to the record?"

"A. I think I can answer your question by saying what has been paid for the property hasn't anything to do with its present value. The fact that somebody may have come in here at a bankrupt sale or something and bought this property at almost nothing——"

Mr. D. A. Frank (interrupting): It may have been given to them.

"A. (Continued.) It may have been given to them; in fact, that question has already been passed on."

The question is not what has been paid for it; the question  
3109 is its fair present value. Its reasonable present value is not measured by past cost; it is measured by present cost.

"Q. You have got, without the trimmings, you have got up to nearly \$6,000,000.00. Then what I want to know is after you have said these prices have gone into it, whereby they have made a fine investment here and have been lucky, in having their properties appreciated, whereby you get it up to \$6,000,000.00 through this appreciation, that has come to them in this community. Now, I am asking you where you get that other nearly \$2,000,000.00 or \$1,800,000.00 to tack on?"

"Why, our measure of the value of this property is not necessarily a cost of reproducing merely the physical property. It is the measure of reproducing the property as a Going Concern."

The \$1,790,000.00 that I have added on here is an estimate of the cost over and above the construction cost to create the property as it is today. That is to get the money and to protect the business. Not on account of high prices, the present prices and cost of all these things, is the only thing you can use in getting at the present value. Now, if you want to know what the value was at the time these things were paid in, that is not present value and that may go back four or five years. The present value is based on the present cost. What they have lost or made has nothing to do with its present value.

We are looking at the thing at the present time. What they  
3110 have done so far as creating this property or business has nothing to do with its present value. That is a question, the man in the street might say that they are making too much money; that hasn't anything to do with the present value. Cost of business

on going concern value is certainly a fact; it is a cost. I have stated that cost of establishing business is a fact.

Over in San Antonio is a telephone business, was in 1918, and they had certain physical properties there. They had what I call a Going Concern or Cost of Establishing Business.

"Q. And that was an item of value. Why, if that is an item of value inherent in that property, do you set up in one way \$250,000.00 and in another \$800,000.00?"

"A. You mean over there?"

"Q. Yes, sir."

"A. The first estimate on original cost was the estimate of what it actually cost to establish that business, what it actually did cost. The second estimate is what it would cost to reproduce it, and that was the estimate at that time, the value at that time. The other had nothing to do with value. It was merely a statement of how much it did cost."

"Q. It is a specific fact that where you have a definite rule of knowing what a thing cost, yet you will take the reproduction theory to arrive at some sort of an estimate with regard to  
3111 what that particular thing——"

"A. (Interrupting.) Would cost today?"

"Q. (Continuing:) Would cost?"

"A. Just as if I had an office building here that cost me \$100,000.00, and it was worth \$200,000.00, I would try to get my rent on \$200,000.00, and I would say that my building is not worth today \$100,000.00, but \$200,000.00. That is the measure of its present value. It may have been worth \$100,000.00 ten years ago, or whenever I built it, but today it is worth \$200,000.00."

This Going Concern value is an estimate of what it would actually cost to get that property as a going concern today. It is an estimate of an actual cost today and that we think is a very close estimate of actual value.

As to whether or not I think actual cost today, where telephone service is in demand, and where people are highly educated in the use of telephone, and in a thickly settled community, would be higher than it would be in the early days as these plants have progressed, I will say the cost of attaching business, we have taken that into account and used only \$2.00 instead of \$4.00 on account of that education of the community, but when we do that even, we are taking a part of the value created by these people. However, we do take it as an estimate as what it would cost with the present education of the people in the use of telephone. Otherwise, it would have taken \$4.00.

"Q. Now, for the enlightment of the City Council over in  
3112 San Antonio, you set up the cost value and told them one figure would be the cost of establishing a business, \$250,000.00; then you set up another figure and told them that the cost of establishing business would be \$800,000.00?"

"A. I clearly stated to them this is what we estimate it already cost. This is what we estimate it will cost today, at the dates we

took. One is an estimate of what it did cost. The other is an estimate of the present value."

This \$1,700,794.00 is what we think it would cost today to just go ahead and build a new plant, and we think it is a minimum estimate if you examine the percentages in there.

We did not group items 1, 3 and 5 on page 6 because we wanted to show as clearly as we could our reason for putting them in there. It is an analysis. We have got the cost of promotion. Initial risk does not come right along about the time the thing is promoted; when they go to get the money; that is when the promoter is an active gentleman.

"Q. That is when he is trying to get the money?"

Mr. D. A. Frank (interrupting): He is not the one that is taking the risk?

Mr. Howard: Oh, no, but it is all right in these hard times.

"Q. Now, we have got the promoter. Then we have got the cost of assembling the capital. I thought he was the boy."

3113 "A. Well, I am sorry Mr. Howard that you don't understand. The promoters don't assemble capital. They get investment bankers to do it."

Promoters don't assemble capital. The name of that gentleman that assembles capital generally he is called an investment banker. An investment banker and broker are the same thing. A broker is not always an investment banker, but an investment banker can be called a broker. He don't like to be called a broker, however. I have not separated these things out of deference to the tastes of the bankers, they come in classes of expense. I did not just put those two things in at one fell swoop because it would not be explanatory.

I divided the other things into cost of supplies and cost of buildings, and here are two different costs. One is the cost estimated to go to the promoter; the other is the cost estimated to go to the investor for taking the risk. The other is the cost estimated to go to the investment banker for assembling the money; it is a very good reason to divide them. I think perhaps I have underestimated the lawyer.

"Q. Well, let's get away from this imaginary stuff if you don't mind, and let's turn back and see if we can find something about the troubles of this struggling company through the days of its travail and sorrow."

"A. I have nothing to do with that."

I am here to help the court put a fair value upon this  
3114 property. It is this property, duplicate of this property.

"Q. Well, now, you first construct a new property, and you talk about all the trouble they are going to have reconstructing it, and you tack on in the aggregate something over \$2,000,000.00, and then you turn back to this property and give it to them new without any depreciation, and say that because this fellow that is coming

down here and going to build this imaginary plant and have to incur all these costs, why you gentlemen have got something that he has, and he has got to pay these things to get them, that is about the process of your reasoning, isn't it?"

"A. That is about the idea."

"Q. All right now. We have gotten back to these people, and if any of this cost of attaching this business and going concern have been paid by the people of this community, would you still say they have got a right to tack on this \$2,000,000.00?"

"A. That has nothing to do with my figures."

"Q. Yes, it does. You can understand now your idea in the abstract of political economy and these fine differentiations that you may make are things in their place, but we want to get the facts and keep in mind, please, that this is not an abstract question, but a concrete question, which is—or incidental to the ultimate conclusion anyhow is the determination of value?"

"A. Of present value."

"Q. Of the property that is here, not an imaginary property, not the one that you have built, and the one that you are theorizing about, or one that you could lecture about, but the one  
3115 that is here and is operating, and that we want to get the value on. Now let's get it. Do you tell me that you have gone ahead just as you have told me you had and reconstructed this plant just as if some new person was coming in here, and these people have something that he wants and hasn't got, then he would have to, if he gets it, put himself in their place, that he would have to pay these prices because those are the prices now, although they were fortunate enough to have bought the material some years ago and that you all applied those prices for that reason, that while their plant is old that for some reason or other we are still entitled to use it as new and we will admit all that. Then you say that because they have got a going business here, a concern that is going and is ready to work and earn money right now and he wants that, he would have to pay what it would cost him to get it because these people have got it and he has not. Now then, finally we are just using him by way of illustration, to illustrate the point, because this thing doesn't exist and there is no such investor, but we turn from this imaginary investor and try to put this plant in its place, and say that is the measure of what they are entitled to, is what somebody, some stranger, would have to pay if he wanted to carry on this plant, that is true, isn't it?"

"A. If I came in to buy a patent medicine business, and I was asked how much I would pay for it, I would calculate how much it would cost me now to establish that business, and that would be the measure of what I would pay for it."

"Q. Yes, you have told me that."

"A. And if I was going to buy a haberdashery, or hat  
3116 store here in town, the measure that I would pay for it would be the present cost of establishing that business, or if I were going to buy a utility, the measure of what I would pay for it would be what it would cost me to reduplicate it."

"Q. Oh, now——

"A. (Interrupting.) Now, I wouldn't care what that man paid for his advertising——

"Q. (Interrupting.) I know that. You don't answer my question.

"A. Will you let me finish?"

"Q. I would, but there is this suggestion that I would make that comes probably within my rights. When I ask you a question I am entitled to have an answer somewhat responsive. If you will keep that in mind I will be glad to listen to you."

"A. I am trying to do it, but you are probably trying to get me to say that what it probably did cost——

"Q. (Interrupting.) I didn't ask you that. I asked you just the opposite. I asked you if you didn't take this theory, that because these people have the plant here now operating and going, if some stranger came in here and wanted to operate just such a plant as this, and either had put up one or bought this one, that if he bought this one, first he would have to pay you the inventory at the present prices, that is true, isn't it?"

"A. Yes."

"Q. Because they have got it and he wants it. In the next place they would have to pay him this \$2,000,000.00 for establishing the business because it is a forced proposition. He couldn't  
3117 do any better, it would cost him that \$2,000,000.00 to establish the business. That is clear, isn't it?"

"A. Exactly."

"Q. Just the reverse of what you thought I had in mind?"

"A. Well——

"Q. (Interrupting.) Now right there. I am asking you to get away from this imaginary man that wants to start this plant, and come back to the present owners of the plant who have all these things; they have the inventory of the property here, and they have all these prices, and they have got a going concern, and got everything that you say is valuable. Now I am asking you, in trying to get at this practical solution of this question from a rate making standpoint, if the community that this utility is serving as distinguished from the new man that would have to come in and start, have collected from this community the cost of establishing that business, whether you would still say that it should be added to the physical property?"

"A. Well, have they collected from this community the cost——?"

"Q. (Interrupting.) Well, I am asking you now if they have. You are experienced and scholarly enough to know that you can base conclusions and base answers on assumptions. Now if they have would you still say this should be added to the physical property."

"A. I certainly would. What they have done has nothing to do with the question of present value."

"Q. If that is your opinion, I will dismiss you right now. I was intending to go over with you and point out to you the facts that

3118 nearly all of these things of making this business has been paid out of operation and paid by the community from the earnings of this plant, that they had been permitted to earn it and get this business."

"A. Let me answer that. If this community had given these people all of this property and it belonged to them, and we were trying to get at its present value, that fact that they had given it to them would have nothing to do with its present value."

"Q. I have no doubt that you are honest in your views."

"A. That is plain on the surface of it. We are trying to find the present value of this property. If the community had given it to these people——

"Q. (Interrupting.) I have no doubt about your views and about your honesty in your views, but to my mind that is absurd."

"A. I want to reiterate that if the community had given them this property that wouldn't affect its present value."

Mr. Howard: I have finished. It is no use of me going over this matter with you.

This case is my first employment by the Bell System. I would like to add to my last answer there that if the community itself owned this property, its present value would be measured approximately by the cost of reproducing it. Who owns it has nothing to do with its value. The ownership has nothing to do with it; it is a question of value.

Redirect examination.

3119 Questions by Mr. J. D. Frank:

"Q. Mr. Allison, if a man came to Houston for the purpose of purchasing this exchange, would it be reasonable for him to demand, that you discount the value of the property because a part, or say, all of the cost of establishing a business had been paid out of operating revenue."

"A. I wouldn't care where it was paid, neither would you. Here you have got a property and it has a value, and that is what he would pay on. The source from which you get your capital would not interest the buyer."

The question is as to what was the value of the property, the present value of the property, the present fair value of the property.

"Q. And what you have done is to estimate the cost of reproducing the business of this company here in Houston which is the same as you have estimated, the cost of reproducing the poles, the wires, the switchboard, and the other physical parts of the company?"

"A. It is assuming the same kind of a proposition."

I made investigation about the cost of this property and did not find it to be \$3,000,000.00. I found it to be \$4,300,000.00 without counting the accounts to be amortized which were paid by this plant that has recently been consolidated, the Houston Home Telephone



Company. There is an account to be amortized there that would add something like \$750,000.00 to that, which would make  
3120 the actual cost estimate of the property right close to \$5,960,000.00

As to whether or not I have added 50% of the physical part of this plant for going value as counsel on several different occasions made the statement, I think it is the relationship between \$1,700,000.00 and \$6,000,000.00; it is about 29%.

It is not a fact that I have considered in arriving at what in my opinion constitutes the value of this property only the cost of reproducing it; I have considered the other things too.

3121 The qualifications, experience, etc., of the witness, H. P. Topping, are set out herein at pages 973-978 inclusive.

Mr. H. P. TOPPING, a witness for the plaintiff, was sworn and testified as follows:

Direct examination.

(Questions by Mr. J. D. Frank:)

I have not made an inventory of the properties constituting the Houston Telephone Plant but I have made an appraisal of the property. I got the quantities of property from the Telephone Company, that was furnished me by the Telephone Company. I took a copy of Mr. Hoag's inventory, the inventory which he made in connection with this case.

This book you hand me is Plaintiff's Exhibit No. 13, F. M. Hoag, witness, Southwestern Telegraph & Telephone Company, Houston Exchange, inventory. That is the inventory which I used in making the appraisal of this property. I could not say whether that inventory is correct or not, because I did not attempt to verify

3122 any part of it, but just assumed the inventory correctly listed the property constituting this exchange, and using that as a basis made an appraisal of the property. I went about it in the same manner that I would have assumed if a client had come into my office and told me he desired to purchase the property and wanted to know the value of that property, or what it would cost to reproduce that identical property.

To be a little more specific: I determined the labor cost by discussing the labor situation with one or two employers of labor in Houston, to determine the wage scale and other conditions. That is, I made a study of local labor conditions in the City of Houston. I was going to reproduce this property and I wanted to familiarize myself with conditions in Houston. That is very essential. I talked with the General Manager of the Houston Light & Power Company, and with the operating officials of the Telephone Company, discussing the wages, the present scale, the possible future of labor conditions, possibility of increases and amount of available help. I found that it occurs very differently that there are other industries who pay

more money than the local institutions can afford to pay, and that the labor situation in Houston is one of the elements which is a very important factor in determining the cost. In building up my unit

costs here, I have used present day labor prices and from  
3123 all the information I can gather, from my study of the situation, I do not anticipate any reduction in the present scale of wages. I am familiar with labor conditions generally throughout the United States, and I think my answer would be applicable to the labor situation as a whole, that is, generally throughout the United States as well as in Houston. I cannot see any reason, with the present coal situation, railroad situation, steel workers, where there is any opportunity for reduction in wages. I have not heard or known of any reduction in wages recently. I have been engaged in telephone and valuation work for about twenty-two years and during that length of time I have not known of any general reduction in the salaries of labor, but I do know that labor has been gradually going up.

I have stated that I do not expect any reduction in the wage schedules in the future and I based that upon,—take telephone supplies, for example: Labor amounts to approximately 65 to 70% of the finished product in place in the plant. I am speaking of the cost of producing material, that labor is one of the biggest factors in the cost of manufactured material. As labor conditions seem to be on an upward trend, I don't see how you can expect any reduction in prices in the immediate future. I am speaking now of material  
3124 costs. I have used present days costs in making my appraisal in this plant. In order to reproduce this plant, it would have to be reproduced in the future; it could not be reproduced in the past. I have assumed that I would make contracts with the suppliers for the quantities of material that are in this plant, for deliveries as they could manufacture them. I have not attempted to, or made no allowance for the probable increase in prices over this construction period. In determining the method of procedure in a reproduction case, the first thing that I have done was to determine my economical period of construction and I have determined that it would take three construction years to reconstruct this property. That would be the most economical period. You cannot reproduce it in a year, because you would have to import men—you couldn't assemble enough men to do the work, you would probably have to pay a premium in wages, pay overtime, and you could not get your equipment from the suppliers, and the increased cost would be prohibitive. You wouldn't want to extend the construction over too long a period, because you would have the loss in revenue, and after studying the matter very carefully I concluded that the most economical period would be three years. You would have to purchase your land, you would have to prepare your plans and specifications for your buildings, and after your buildings were erected you would have to install your central office equipment. During the time that you were building your buildings and installing your equipment, I figure that you  
3125 could arrange for and complete the construction work of the distributing system, or the outside plant.

In order to reproduce a property of this magnitude, it was necessary to make a very careful study. You would have to organize your forces and lay out the work in order to produce it in the most economical and efficient manner. I have prepared an exhibit on that, if you care to see it at this time.

Mr. J. D. Frank: We desire to offer that in evidence as Plaintiff's Exhibit No. 29.

(Thereupon said exhibit was received in evidence and marked Plaintiff's Exhibit No. 29, and said Plaintiff's Exhibit No. 29 is transmitted herewith in exhibit file.)

You will notice down in the left-hand corner there is a heading "productive men." That would represent the men that do the productive labor in placing the physical property. Those men are not qualified to go out and do this work without more trained and more efficient assistance. It would be necessary to place a gang foreman in charge of a certain number of men. A gang foreman can efficiently supervise seven or eight men and it is his duty to see that they produce in the most economical and efficient manner. In a plant of this size, with the number of men that would be required, it  
3126 would be necessary to have a supervising foreman, a man who would have charge of a certain number of these gang foremen.

In addition to that you would have to have time-keepers, store-keepers, and you would have to have a plant accountant, general supervisors, purchasing agent, office space for these men. You would have to have warehouses and storage yards, and on this chart I have attempted to indicate how I would divide this expense up. Under this item "A," or under the heading "A" appears the material expense. Under the heading "B" is direct labor and under the heading "C" is the indirect labor and tool expense. Attached to the chart I have indicated about how this organization would work out. I have estimated that it would require about 250 men to reconstruct this plant during the reconstruction period of three years. I would not have all of those men employed throughout the construction period, but I would start off with a certain number of them. I would start first by building my pole and underground conduit plant. I would start that work simultaneously, digging the holes, hauling the poles and placing them, and in the first quarter I would put on about 120 men to start with, and then each quarter as the work progressed I would put on additional men. For instance, I would allow the pole plant to progress about six months and then start to stringing aerial cables. After the underground plant had progressed about the same time I would start to placing underground cables, and in about three months  
3127 I would start the splicing crews to work splicing the aerial cables and underground cables and as a peak I would have about 250 men at work, during the main part of the construction. Those men would be gradually cut off as the work was completed, until — the end I wouldn't have any men, I would lay them all off. I did not make the estimate as to the number of men I would have to have in reconstructing this plant for the purpose of building

up material costs, that was for the purpose of satisfying myself about the economical construction period. If I had too many men they would be in each other's way, couldn't do the work efficiently, and if you didn't have enough, the work would drag.

I have made a study of the past history of material prices and the present material costs, and considered what would happen in the future with reference to material prices. I tried to make a very careful study of material prices and went into considerable detail. It is my best judgment that prices are more apt to increase than they are to remain where they are to-day. I base that upon the fact that I am furnished a price list by various suppliers from time to time, and I have in mind right at this instant prices furnished in August, a price list received August 26th, 1919, and there were a number of increases in various classes of material and apparatus at that time, even over that period.

The Armistice has been signed a little over a year and prices of various material has been going up since that time. There  
3128 are a number of reasons why I do not expect any reduction in the price of material in the future. As long as labor conditions remain as they are, and the high labor scales are in force—labor represents approximately 65 or 70% of the value of material in a plant—you cannot hope to reduce the material values very materially. In other words, I mean that on the various articles of material that enter into a plant, the cost of those articles, I would say, are divided up about 65 to 70% labor and 30 to 35% material. Therefore, that is one of the things which leads me to believe that the prices of material will not go down. That is on account of the high wage schedules which are being paid at the present time, and, another thing is shorter hours. Another reason is increased freight rates. Another would be higher taxes. This war will have to be paid for, and manufacturers will certainly add their pro rata share to the cost of their products. The question of supply and demand within the next few years will be one of the very real problems. For example, during the war period a great many of the utilities, telegraph and telephone companies and electric light companies have postponed all of the construction work they possibly could postpone, they only purchased such construction material as they really needed to maintain their plants, and to keep them up in condition, and as the result there will be a very large demand within the next few years—for the next few years for all kinds of construction material. That, I think, will have  
3129 a very large influence in regulating the prices. And the item of gold supply, that has been increased. In my opinion the war has not been responsible for all of the increase in the price of material in the last few years. There have been certain classes of material that have been advancing even before the war. That is true practically to all of the material which enters into a Telephone plant, the items that run into money fast. In other words, there has been a gradual upward increase in the prices of these materials even before the war.

I have prepared an exhibit on poles. I wanted to determine what has happened in the past ten years with reference to the price of poles, and I would like to offer that as an exhibit.

Mr. J. D. Frank: We offer that in evidence as Plaintiff's Exhibit No. 30.

(Thereupon said exhibit was received in evidence and marked Plaintiff's Exhibit No. 30 and said Plaintiff's exhibit No. 30 is transmitted herewith in exhibit file.)

I have attempted to indicate on that first page the price of the poles at the woods from 1910 to October 1919. You will observe that in 1910 a 25 foot C Pole cost at the woods, \$1.50. It increased up to 1911, 1912, 1913 and 1914. In 1915 it remained the same, and there was a little rise in 1916, and from 1916 to 1919 there was quite an abrupt rise, and then a slight rise during the nine months of 1919. The prices of material are still going up. The price in 1919 was about \$3.60, \$3.55 or \$3.60 as compared to \$1.50 in 1910. Prior to that time there were fluctuations in the price of poles, but a gradual increase. That was the 25 C pole that I discussed then. The 25 B cost \$.85 in 1910 and they cost \$4.60 now. The 30 foot C pole, cost in 1910 about \$2.15 and in October 1919 cost \$6.00. There is not anything at the present time to indicate there will be any reduction in the prices of that material. This is my opinion that there will be no reductions in the pole prices especially because the pole supply is limited, and the demand is constantly increasing and I cannot see any reason why we could expect a decrease in the price. In fact, I really expect the price to increase. Labor conditions would have something to do with reference to the continuance of the high prices of that material, and freight conditions would have some—increased freight rates. I am speaking now of the increases which have been put into effect during the government operation, and in all probability there will be additional increases. I make that statement because the government has been operating the railroads at a deficit, and when they are turned back to the owners in all probability the owners will have to absorb in increased rates the increased cost of operation. It is my understanding that the government is now figuring on returning that property to the private owners within the next few months. Then, in order to take care of these deficits which have been accruing, the railroads will have to increase their rates, they will have to produce a revenue from some source, and that is the only way that I know of that they could produce it, by increasing the rates.

On the second page of my Exhibit the first pole is the 30 foot B. The price of 30 foot B and 35 foot C was the same in 1910, \$4.50. They both went down slightly in 1911 to about \$4.30, and then from 1911 the prices began to increase and in 1919 the 30 B pole cost at the woods about \$9.15, as compared to \$4.50 in 1910.

On the last page of this exhibit is the average monthly price of Lake Copper at New York, over a period of years from 1900 to 1919. Lake Copper is raw copper as it comes from the mines, unrefined. The price of copper does fluctuate more so than the average item of material in telephone plants.

The curve on that exhibit represents the history of that price

from 1900 to 1919, and if that curve was smother out it would have a tendency of a gradual increase. During the war the government regulated the price of copper and placed a price of 23½ cents on copper, and that sort of regulated and held it down. After the armistice was signed copper began going down until, 3132 as the curve shows here, a little below twenty cents, and then started up again and in 1919 at one time it went down as low as fifteen cents, and then recovered and went back to approximately 22 cents. It is now on an upward incline,—it fluctuates.

Cross-examination.

(Questions by Mr. Howard:)

I have put in most of my life in telephone work. When I stated that labor has been gradually going up since about 1900 I meant that as far as telephone work is concerned. It has been gradually going up, and I mean by gradually that wages have been gradually increasing from year to year. As far back as I can remember wages have been gradually increasing from year to year. The increase from 1915 to the present time has not been gradual, that was a little abnormal. I haven't an exhibit showing the labor increase in the way that I have the pole increase. When I made my investigation in Houston it showed that labor had increased 54.76 per cent since 1917 which is a pretty abrupt rise. It would be more nearly correct to say that there was a gradual rise up to 1917 and then an abrupt rise.

I have stated that price- of both material and labor will increase and I stated that from the investigations that I have made, 3133 and opinion of others on the subject that there is no likelihood of prices receding or labor receding. I do not happen to know who succeeded Mr. Herbert Hoover in his position with the government. I did not see an article by his successor in which he predicted a decline on all things of at least 25% in the next six months, by June, that the cost of living would decrease 25½ by June 1st. I did not see the article but I did see one in the paper the other evening where the clothiers in convention in Chicago stated that clothing would increase in price, spring clothing would be increased from 25 to 40%. From the study and investigation I have made of the conditions, I cannot see any reason to expect a decrease in prices as long as labor conditions remain as they are. It would be possible for labor conditions to take a tumble themselves but it doesn't seem to be probable under present conditions. That abrupt rise in labor prices along about 1917, in this particular locality, I think it was largely due to other industries drawing on the labor of the utilities. Other utilities that were able to pay better wages, such as oil industries. I don't know about any others. Ship-building, army camps, aviation fields and things of that sort. On account of the oil industry I would say that labor conditions in Houston are a little different from other places. However, they increase all over. There are prospects of the war being over, in fact,



it is over so far as hostilities are concerned but peace is not  
3134 signed. I have heard it quoted by wise men all over the  
country that when the peace treaty is signed that is going  
to restore conditions but the fact remains the laborers are striking  
constantly for increases. The coal miners have recently struck.  
The very fact that they struck threw a good many people out of  
employment. A great strike movement would disturb conditions,  
yes, sir. If the coal strike had been continued even until now, the  
industries of the country would have been seriously crippled.

"Q. Then, if the strike had been continued to now and ended,  
then there would have to be a reorganization, when men who had  
been patronizing the bread line and the soup kitchens as they do in  
times of trouble like that, they would try to seek employment again,  
and as seekers of employment they would have different conditions  
to contend with than when employment is seeking them."

"A. I have endeavored to arrive, after a study, of a fair base, a  
fair labor base, which I have used in this case."

In my judgment I do not think they are going to fall within three  
years, from the information I could gather there is no possibility.  
I was informed that very likely these wages would increase in 1920.  
I have gotten my information in this City from the officers of the  
Southwestern Telephone Company and the Officers of the  
3135 Houston Lighting & Power Company. They are the men  
I talked to. They are the men who employed this type of  
labor. There is no place else to go to get this information. There  
is no place else to obtain this sort of information, because they are  
the only people who employ this character of labor. I did not know  
anything about the Houston Lighting & Power Company being  
threatened with a reduction of its rates because it was earning alto-  
gether too much money, earning excessive returns upon its invest-  
ment. I am not familiar with that. On account of these oil in-  
dustries paying better wages, it is going to be necessary, as I have  
been told, to increase their wages if they are going to retain their  
employees. Labor has a tendency to seek higher wages and higher  
employment, and if there is any particular place in the country that  
is paying higher wages it tends to draw labor to it and increase its  
supply. I don't think that condition would obtain here from the  
information I have obtained, not the class of men, not the character  
of men who are used in this kind of work. Utilities have been post-  
poning construction during the war period. There are not many of  
them carrying it on now. They have been like everyone else, wait-  
ing to see if the materials would be reduced. If I had the money  
to invest I would come to a city like this now and embark in the  
telephone business and reproduce a plant new and consider that  
I was embarking on a sound business enterprise. If I wanted to  
go into the telephone business, and after the study that I have  
made as to conditions, and the probable future conditions,  
3136 I certainly would. I would do that being sure that I was  
going to get a rate that would pay a return on these values  
because I would consider that the people in this community would  
be fair. If I wanted to enter the Telephone business I would invest

my money at this particular time in the telephone business in a plant the magnitude of this plant. You can't hope to be able to obtain reduced prices at any time in the near future. There are so many elements that are entering the regulation and governing of these prices that I don't seem how we can hope to do it.

"Q. Isn't that a pretty strong statement that he can't hope to get lower price level than exists under the existing conditions, but under the conditions such as these, if they remain just as they are, if the conditions don't change, that is evident. But I am asking you if the element in this proposition that prices are at an abnormal high level due to a specific cause, isn't sufficient to deter any sane business man from going into a city of this size and constructing a large telephone plant on the present prices, and with a view of making a profit out of it."

"A. It is my opinion that we are entering an era, we are living under new conditions, we will never get back to pre-war conditions, and the quicker we readjust ourselves to the new conditions, the quicker normal conditions, or the approach to normal conditions will be reached."

I can't see any possibility for a reduction in prices and I would be willing to go into it and invest my money as a prudent business man upon the assumption that there would be no decrease in the readjustment of prices. I did say a moment ago that they had been holding off even construction but they are gradually purchasing material and beginning reconstruction work; they are beginning to realize that the former conditions and former prices will not be reached at least for some years to come, if ever. I do not know of any telephone plant of this magnitude having been sold recently.

\* \* \* \* \*

Redirect examination.

(Questions by Mr. J. D. Frank:)

I have made the statement that I never expect to see the pre-war level of prices reached again and I make that statement by reading the various scientific journals, economists' statements, and general information which I have obtained. It is my opinion that pre-war prices will never be reached again.

With reference to the magnitude of this Houston Plant, or plants of this magnitude, they are not commonly bought and sold upon the market like stock and bonds. That is true with reference to large properties of all kinds.

\* \* \* \* \*

I have prepared an exhibit setting forth the detail of my unit costs.

Mr. J. D. Frank: We offer that exhibit in evidence as Plaintiff's Exhibit No. 31.

(Thereupon said exhibit was received in evidence and marked Plaintiff's Exhibit No. 31, and said Plaintiff's Exhibit No. 31 is transmitted herewith and Exhibit file.)

I will take the item of 25 foot 6 inch poles on page 48 and show how I arrived at my unit cost. That is a size very commonly used in the plant. That appears in the top row of figures under the heading "Heights of Poles, Feet," 25, and the next line "Size at Top, Inches," 6. That is similar to the 25 foot Class C pole. In this unit cost detail it is identically the same thing for the reason I simplified the matter by merely indicating the inches at the top. That means it is 6 inches in diameter at the top, but it also means that it is a 25 foot Class C Pole. They are one and the same thing in this case. Under the heading of "Material" the price shown is \$5.50, that is a price delivered at Houston. I obtained that price from a pole Company; in fact, I obtained prices from three pole companies on poles, and have treated those prices that they have given me as f. o. b. Houston. To the price of the poles I have 3139 added the supply expense, 7%, which gives 38 cents, making the total material cost of the poles \$5.88.

The supply expense is explained thus: In reproducing this plant I would have to have storage yards, warehouses and an organization for the purpose of handling supplies in caring for them from the time they reached destination until they were finally ready to be placed in the plant. In order to take care of this expense I have indicated it under the heading of "Supply expense." Supply expense consists of the rent of the ware houses, storage yards, light and heat, cartage from the freight depot to the ware-house or storage yard. We would have to have temporary shelving in some of my warehouses, partitions, fences around the storage yards, you would have to have night watchmen, stock-keepers and men to look after this material, to receive it, check it, sort it and shelve it, and after that the construction forces would draw on the warehouses for the supplies as they were required in the plant and these same men would have to re-issue this material to the construction forces from time to time as the work progressed. And in addition to that I would have to have a purchasing department, someone to look after these supplies and the purchasing of them, to see that the proper grades were secured. The purchasing department would have to be housed in separate quarters with rent, light and heat, and they would consume stationary and have other incidental ex- 3140 penses. I figure that it would cost 7% on every \$100.00 worth of outside distributing plant material to handle that material. That does not apply to land, buildings nor central office equipment. Also, it is customary to make a check of the supplies periodically and then to carry in the supply expense such shortages or discrepancies as occur. I am familiar with the ruling of the Interstate Commerce Commission with reference to this item of expense, and I know that it is an item set out by the Interstate Commerce Commission. Seven per cent is not the figures that is allowed in every case. That depends. I know from my own knowledge and experience that the supply expense runs from five to 10%, but it was my best judgment that in reproducing this plant that I could do the work on the basis of 7%. And I might mention in connection with this, inasmuch as the Fort Worth case has been mentioned,

that in that case I used 9%. I used 9% in that case for the reason that we made an investigation of the Telephone Company's book and found that it is what it was costing the company. I have not made any such investigation in Houston to determine what it would be. In Houston it may be more, and it may be less. In the way I have built up my organization that is my best judgment as to what it would cost to handle the supplies in Houston.

The next item is labor. The labor is figured at \$4.89 and 3141 and I arrived at that figure by referring to page 18 of this same exhibit, under the heading 24' 6" pole, the first item is unloading, inspecting, sorting and piling, the amount is 31 cents. The next item is shaving, 48 cents; the next item is roofing, gaining and boring 46 cents; the next is extra labor hauling 14 cents; the next is locating, 30 cents; the next is digging; \$1.08, and the next is erecting \$2.12, making a total of \$4.89. When I say unloading, inspecting, sorting and piling, I am speaking of unloading the poles from the freight cars upon their arrival in Houston. I have all this in detail in another part of my exhibit showing how I arrived at these figures. On page 12 at the bottom of the page is the heading, "Unloading, Inspecting, Sorting and Piling of Poles. Gang Organization." There I have detailed the number of men, the direct supervision, the indirect supervision, the cost per gang day, and the cost per gang hour. The cost per gang hour is \$4.67. By referring to page 11, under the heading 25' 6" poles, the number of poles per car has been figured at 135, and I have estimated it would take nine hours to unload the car of poles. The cost per gang hour is \$4.67, and makes a total cost of \$42.03. Dividing the \$42.03 by 135 poles would give me a cost of \$.31 per pole. That is as to the 25' 6" poles. In other words, I have figured out just how much time would be required to perform the various pieces of work that would have to be done in receiving those poles, 3142 carrying them to the job, and then erecting them. I considered the rate of pay and the time consumed to perform the various functions necessary.

I have "Hours on Unload" for 25 foot 6 inch poles as nine. I do not show that in further detail because that is the basis to work on. I determined how long it would take to do this work. From my experience and knowledge of the business I know the operations necessary to go through. Those poles are received at destination and the stakes on the car have to be cut, and skids placed to run them on from the car down to the ground. They have to be sorted out by the sizes, if it is a mixed car, the 25 foot poles selected and put in one pile, the 30 foot poles in another, and the 35 foot poles in another, and they have to be handled—in all probability they may have to be moved off the right of way. That is only a temporary location. My estimate as to the time required to do this work was made on my actual experience in the telephone business. I have done a considerable amount of that work while working for Telephone Companies and have handled large gangs of men in doing that particular kind of work and been on jobs where the work has been done.

On page 48 the next item of expense in connection with that 25 foot 6 inch pole is "Incidentals, 53 cents." That is worked  
3143 out in detail on page 20½, which is an extra sheet in my exhibit. Under the heading of 25 foot poles, hauling the poles we have estimated at 25 cents. It would be necessary to have a team with the erecting crew to transport their tools and the men from one position to another, and this team we have estimated at 28 cents. The incidentals merely include the cost of the team, or means of transportation. It goes not include any labor. I find as the cost in place of one of these poles \$11.30.

I will take up and explain the item of aerial cable which is on page 29 of the same exhibit. Fifty pair size is the size most commonly used. Up at the top is indicated the cable, 22 gauge, and the type of the cable. This type of cable happens to be N. A. which is a lead antimony sheath with small diameter. The size of the cable is indicated across the top of the next line, and the gauge directly following. The next line shows the weight of the cable and reels per thousand feet of cable. This is shown for the purpose of determining the freight. Under Material Cost, the cost of the cable f. o. b. Hawthorne, Illinois, is shown as \$194.00 per thousand feet of cable. The freight from Hawthorne, Illinois to Houston, Texas, car load lots on this class of material is 65 cents per hundred. Sixty five cents per hundred on the total weight of 1,465 pounds equals the freight, \$9.52, to which I have added the war tax of 3%,  
3144 28 cents. The next item is splicing material. Splices will average approximately 2 per thousand feet, and the splicing material would cost \$5.98. In addition to that I have included in my unit the splicing material necessary to place the terminals, 3.6 terminals per thousand feet. I obtained this average by taking the total amount of cable in the plant and dividing it by the total number of terminals in the plant, which indicated that to each thousand feet of cable there was an average of 3.6 terminals. That is based on actual facts as to the number of terminals here in Houston, and the amount of cable that we have here in Houston. That gives me a cost of \$12.71.

The next item is miscellaneous material. In stringing this cable we use a soft soap, and I would use it, to lubricate it so it will slip easy. That is insignificant, and probably amounts to only 50 cents per thousand feet. That gives a sub-total of \$222.99 per thousand feet, to which is added supply expense of 7 per cent, and obtain a total of \$238.59. This has been indicated as Total A, but represents the total material cost of one thousand feet of this type of cable.

My next item is labor. There are certain operations that you perform regardless of the size of the cable. Those operations I have indicated there as "Constant A." Constant A is shown in detail on page 37 of this exhibit No. 31. There again I have set up  
3145 the labor as I would arrange it, to do this class of work. You will notice the first heading there is "Labor Placing Messenger." That I have estimated at \$19.04 per thousand feet. The next item is "Labor Placing Cable." That I have estimated at 51 cents.

That is not the entire labor cost, that is boring the holes, for messenger hangers, and placing hangers averaging 9 per thousand feet of cable. The next item is labor placing rings on strands, \$8.16 per thousand feet of cable, then the labor of jacking up the reels, taking off the lagging, stringing, is figured at \$19.04 per thousand feet. Then after the cable is strung it is necessary to send a man back over it — space the rings, and I have estimated that at \$1.63 per thousand feet, making a total of \$48.38, and I have indicated this total as "Constant A." Then by again referring to page 29 you will observe that is the amount I have used. The next process was to determine additional labor for splicing, which I have used as "Constant B." That fluctuates a little, but I can explain it in detail by referring to page 41 of the same exhibit. That is, the detail of Constant B is shown on page 41 of the exhibit. Down about the center of the page is the item of labor. The labor necessary to make the straight splices in the cable which is indicated under the heading "50 pr." is shown 7½ hours time two equals 15 hours. In

other words, there are two splices per thousand feet of cable, 3146 and it would take 15 man hours to make those splices. The rate of pay for this particular class of construction amounts to \$1.02 per hour. Fifteen hours at \$1.02 gives me the figure of \$15.30.

The next item is terminal splicing. Of each thousand feet of cable there are 6.3 splices, and it would require 6 man hours to produce each splice, or a total of 21.6 man hours at the rate of \$1.02 per hour would cost \$22.08. That \$1.02 per hour is not for two workmen but that is the man hour rate. This has all been reduced to man hours, and makes the compilation a whole lot easier. The next item is placing terminals and boxes. There are 3.6 terminals to be placed for each thousand feet of cable and I have estimated it will cost \$1.00 for each, and there are other miscellaneous items, Placing Cable Grounds and Bonds \$4.00 per thousand feet. I get a total as Constant B amount to \$47.93, which is shown on page 29, last item under labor. That gives me a total labor cost of \$106.31 per thousand feet of cable. The next item, "Incidentals, \$4.89." I have worked that out on page 43 of my exhibit. Down the left hand column is shown the size of the cable. In the next column is shown the number of feet of cable per reel—that is standard length—and in the next column is shown the number of reels per load. In the next column is shown the number of trips per day, which equals a total of 6,000 feet of cable per day. At a cost of \$8.00 per day for transportation that would equal \$1.33 delivery charges per thousand feet of cable. That is the first item indicated below, the item "Hauling," \$1.33. I am still talking about 50 pair cable, I am following that fifty pair cable all the way through. Then, there is a charge of returning empty cable reels of 90 cents per thousand feet of cable. That is, returning it to the common concentrating point, or storage yard. Those cable reels are charged up when they are shipped by the suppliers, but I have not charged them into this job, because when they are returned credit is given, credit is allowed for them. Therefore I have not figured in



my appraisal the value of those cable reels. This cable would be pulled with a team, and the next item is "Team Pulling Cable, \$2.66" making a total incidental expense of \$4.89 per thousand feet of cable, and that is the amount I have shown on page 20 of this exhibit.

On one page of this exhibit I have labor divided up into direct supervision and indirect supervision. That is explained thus: It would be necessary in reproducing a plant of this size and magnitude to have a well organized force do the work economically. I have started from the ground and built up my productive men, and have organized gangs which a foreman could reasonable supervise. I

3148 have estimated that a foreman could supervise efficiently about eight men. In addition to that it would be necessary to have supervising foremen who would have charge of probably various gangs, and in addition to that we would have a general plant superintendent, some one who is in charge of the entire work. The indirect labor consists of the General Plant Superintendent, his office force, his expenses and office rent, stationery, light, heat and so forth.

I have introduced in evidence exhibit No. 29 which is to show among other things what part of the labor is direct and what part is indirect, explaining how I have built up my organization. They all go to the cost of performing this particular work, and I have divided it up into the men who actually do the work, and the men who supervise the doing of it. And I might explain, in addition to that, that in there is the item of tool expense. Tool expense covers the tools that are worn out during the construction, or broken or stolen, or the tools that are actually consumed in doing the work. I have considered that as a part of the cost of doing the job, and included it in indirect supervision. Before I leave that I would like to explain that by adding the total material of \$238.59, and the total labor of \$106.31, and total incidentals of \$4.89, I obtained a total of \$349.79 as the cost per thousand feet of cable in place. That

3149 also includes the cost of placing the associated material. That is everything that goes with the cable.

\* \* \* \* \*

Cross-examination.

(Questions by Mr. Howard:)

Of course, I did not try to employ any men to build this plant nor did I try to buy any material to build it with. I obtained prices for material on the assumption that it would be built. Nobody knew but what I would build it when I asked for the quotations on the material. The suppliers when they furnished me the prices didn't know whether it would be built, or not. On poles I obtained quotations from the Page & Hill Co., whose general offices are at Minneapolis, Minnesota. Also, on poles from the Volentine-Clark Company, whose offices are at Minneapolis, Minnesota, and also from the National Pole Company, whose offices are at Escanaba, Michi-

gan. I got from those dealers the prices that I have used in my unit. They were all the same, all alike on each class of pole. They happened to be all alike. I wrote to three different suppliers and each of them gave me the same figures, except on some Western cedar poles, they were a little different in their figures, but I am referring to Northern White cedar poles. I don't know whether there is some sort of combination or not, but those are the replies  
 3150 that I received. When I wrote them I did not tell them that I was going to build a big telephone plant here in the City and would like to get bids. I merely asked them for quotations on various sizes of Northern Cedar Poles, and specified the sizes. There is a way of getting competition in contracts for furnishing poles to a big plant like this, and I thought I was doing that when I asked the three companies for prices. If I was going to build a telephone plant they would send a representative to visit me, they would be interested enough to send a representative down here. That is what happened in this case, Paige & Hill sent a representative down. He has an office in Kansas City and came up to see me, came to see why I wanted the quotations.

\* \* \* \* \*

Redirect examination.

(Questions by Mr. J. D. Frank:)

I have prepared an appraisal of this property and have marked that "Valuation of Plant."

Mr. J. D. Frank: We offer that in evidence as Plaintiff's Exhibit No. 32.

(Thereupon said exhibit was received in evidence and marked Plaintiff's Exhibit No. 32, and said Plaintiff's Exhibit No. 3151 32 is transmitted herewith in exhibit file.)

This appraisal contains a summary and recapitulation. The recapitulation is shown on sheet one and 1-A, and the summary is 1-B and 1-C. My final figures are shown in the summary, the total reproduction cost new of the physical plant is shown on pages 1-A and 1-B showing the total physical plant with the working capital and cost of establishing business attached.

The first item that I have on page 1 is land. I find as the value of the real estate, of the land \$204,144 and that includes all of the land used and useful in connection with the operation of this Houston Plant. That is shown in detail on page 2 and page 3 and page 4. The way I arrived at the values which I have placed on these various items of land is I obtained an opinion from two local real estate men, Mr. E. N. Mills and Geo. L. Wilson. They are both real estate dealers in Houston. After I obtained their figures I used the lowest figures, that is, the lowest figures submitted by either one of those real estate men.

\* \* \* \* \*

I don't know what figures Mr. Hoag was using on this land. Mr.

3152 Hoag and I have not worked together in making our respective appraisal of this property, only insofar as he furnished me the physical unit without any prices attached. Up until the time I entered the Court Room here Friday and heard Mr. Hoag testify as to the value of this property I did not know what value he was placing on it. Our work in making our respective appraisals has been entirely separate and independent and I have not changed my figures any since I heard Mr. Hoag, my report was all complete by that time.

The next item on the recapitulation on page 1 is the buildings. I find as the value of the Preston Building, \$332,541. The Hadley Building \$64,118, the Taylor Building \$33,675 and the warehouse at \$300.00, making a total for the buildings of \$430,634.00. In appraising those buildings I obtained from the engineering department of the telephone company the original cost of the buildings the years they were built. I then consulted contractors to determine how much material and labor, building material and labor has increased since that time, and I was told they had increased from 80 to 100%. I wanted to be conservative and I adopted the figure of 85%, and to the figures furnished me by the engineering department I added 85%, plus architect fees of 5% and in that manner determined the reproduction cost of the building. That is, that applied to the Preston and Hadley Buildings. The Taylor Exchange is a different type of building, and those materials have increased

3153 only on an average of about 50%, so I adopted 50% on the Taylor Exchange. I got a figure of \$175,000.00 as the original cost of the Preston Building. I got that figure from the engineering department of the Telephone Company. That figure is supposed to include everything that went into the building, such as the wiring and the elevators and things of that kind, that is the figure that I desired to obtain. As a matter of fact, I have since learned that it did not include all the cost, but my figures were all made up and I couldn't change them. I learned that since I came to Houston in the last few days and the error, if there is an error in that, would be against the company instead of in favor of it. I have since heard what the original cost of that building was and it was around \$200,000.00, making a difference of something like \$25,000.00. I used that as the original cost of the building and did not change my figures. If I had corrected that it would have made an addition of \$25,000.00 plus 80% of \$25,000.00 which would be about \$20,000.00 more in order to make my figure correct on the basis on which I was proceeding, in order to determine the present cost of reproducing the buildings at the present time I conferred with contractors to determine, as a matter of fact it was \$200,000.00 in order to make my computation correct I would add the \$25,000.00 plus 85% of

3154 that in order to arrive at the present cost of reproducing that building. That would add about \$25,000.00 to it, but this information reached me so late that I didn't change my figure and allowed it to remain just as it was.

I had a figure of \$33,500 as the original cost of the Hadley Build-

ing. I have since learned that that figure did not include the whole of the building. I got my figure with reference to what was supposed to be the original cost of the buildings from the engineering department of the Telephone Company. I have not investigated the books to see what the original cost of the buildings were, I assumed that the information they furnished me was correct.

I got a figure of \$21,500.00 as the original cost of the Taylor Building.

The figure I used for the warehouse down there is not supposed to be the original cost of the building but that is my estimated cost. That is my estimate of what it would cost to reproduce that building.

In my investigation with reference to the present prices of material for the purpose of arriving at what it would cost to reproduce those buildings at the present time I conferred with contractors to determine how much building labor and material had increased 3155 since these buildings were erected, and I was told it had increased from 80 to 100 per cent. By contractors I mean building contractors. And then I adopted the figure of 85%, and since that time I have learned that the Interstate Commerce Commission's Bureau of Valuation are using 85% as their base. I didn't know that at the time I used it in my report. That is, in estimating the present cost of reproducing buildings of that kind they are using the figure of 85 per cent as the increase in prices in the last few years. I think that is supposed to cover from 1912 down to 1919.

#### Cross-examination.

(Questions by Mr. Howard:)

The figure of \$175,000.00 was given to me as the original cost of this Preston Building. I was supposed to have gotten the entire original cost of the building but it seems that was not the entire original cost, that the original cost was a little more than \$200,000.00. The value that I arrived at as the value of that building is \$331,187.50.

That set up on page 1-B is the cost of the building, plus the overheads. With the over-head added to it I get the building finally at \$405,700.00.

3156 Mr. J. D. Frank: I got that mixed up myself; I thought I had the page where he showed his final figures, but I see I did not. That was the figure I was intending to question you about, and I thought I had the final figure on that.

Mr. Howard: That is what I am concerned with, his final figure.

#### Direct examination.

(Questions by Mr. J. D. Frank:)

I show the land as \$204,144.00 and on page 1-B \$249,066.00. The figures as shown in the recapitulation, pages one and two, correspond with the detailed figures of the bare physical plant as shown

throughout the inventory, without the items of Engineering, Contingencies and Omissions, Interest during construction, and the other expenses that have been included as overhead expenses. This figure is larger because I have added the overheads. If you will notice, on page 1-A I have added the overhead expense to the plant collectively, when on page 1-B in the summary I have added the overheads to the individual items of plant. In working out my overhead expense I have taken a weighted percentage and applied that to the property as a whole, and that would explain why I have such items as Engineering, Omissions and Contingencies, etc., charged up against 3157 land. Instead of taking particular parts of the property and saying I would have omissions and contingencies,—for example, if the distributing system is 8 or 10% and there are no omissions and contingencies on some other part I have taken all the property as a whole and have gotten the weighted average percentage for omissions and contingencies on all of the property. And I have treated these other items of overhead expense in the same way. It would not have been any different if I had figured it out as to the various parts of the property and applied the actual figures to them.

Then, on buildings I get as my final figures, in the summary on 1-B including overheads \$525,374.00.

#### Cross-examination.

(Questions by Mr. Howard:)

On page 1 I put the land in at \$204,144.00 and on page 1-B I put the land in at \$249,000.00, a difference of \$45,000.00 which is the overhead expense.

“Q. What overhead expense?”

“A. Items of contingencies and omissions and engineering—”

“Q. What omissions and contingencies do you have on that land? You don't loose any land?”

3158 “A. I merely took and weighted it out for convenience sake, by applying it to the property as a whole. That is the customary practice with engineers, to apply the overheads to all property.”

If I took the method of taking the items and figuring them out upon an accurate basis I would obtain the same result exactly. You might eliminate the engineering from the land, but it would be increased on others items of plant so the final figures would amount to the same thing.

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#### Redirect examination.

(Questions by Mr. J. D. Frank:)

I don't remember exactly how much the contingencies and omissions would be on the distributing system if I worked it out as to the distributing system. I have worked it out once or twice,

but I know that when it is worked out in detail it is very much higher than it would be by weighting it out over the entire property. The result has always been the same, and this is a much simpler method of getting the answer, and consumes far less time. It would have been considerably more than 4%, 8 to 10%. Instead of figuring out the omissions and contingencies as to  
 3159 specific parts of the plant I have taken the weighted average for the property as a whole. In some items of property it would be considerably in excess of 4%, and some it would be considerably less than 4%. As figured here the contingencies and omissions on the Preston Building would be something like \$13,000.00. That is, by applying the 4% it would be something like \$13,000.00. After I figured it out I actually found an omission which amounted to something like \$45,000.00. I am not considering that in arriving at this 4 per cent, I didn't expect that omission. I know those things happen invariably in valuation work, that is the reason we make that allowance. That is the method generally employed by reputable engineers and the method I have used in other valuations made by me.

This increased figure that I have here on page 1-B for the building amounted to \$525,374.00 includes among other things the architect's fee. It does on the increased value of the building, and I assume that has been taken care of in the figure they furnished me as the original cost of the building. That also covers my interest during construction and the other overhead items of expense.

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It is a human impossibility to value property of this size without considering omissions and contingencies. I would like to  
 3160 give you an example in the Fort Worth case, and I refer to it because it has been referred to before. In the Fort Worth case the City and the Telephone Company agreed to make a joint count of the physical property, and that was very carefully checked in detail. The count made by the Telephone Company was checked by the City, and the count made by the City was checked by the Telephone Company, and we used every precaution we knew of and could use to make an absolutely accurate field count of the property. When we finished our work and checked up, we found that an item of 6-way conduit, amounting to something like ten or fifteen thousand dollars has been omitted in the compilation of the units. In other words, after they were tabulated, in transcribing them on the sheets to be priced that item was omitted, and we also found other items. We found, I believe, a coal-chute arrangement on the building, and other items that had been omitted, so I know from my experience that you must take into consideration contingencies and omissions, for they always happen. I have divided contingencies and omissions into these three classes: Intentional, Unintentional and Contingencies.

The intentional omissions are the omissions that we know exist, but are taken no account of in building up the unit. For instance, sag in aerial cable, sag in wire, short ends of cable, short



ends of messenger strands. In every cable splice there is a loss of some two to four feet, and loss of material by workmen, 3161 material is sometimes stolen, and sometimes burned. I know of one instance where a carload of poles was unloaded on the right of way, and the next day the entire car was burned up. Loss of material by breakage, temporary guards to protect the public, sometimes necessary to re-dig holes to satisfy property owners, and in digging holes we might strike sewer pipes or gas pipes and have to change the location of the pole. Re-routing cables and wires to satisfy subscribers' loss of production due to foreign wires; delivery of material to the wrong location; wrong kind of material, slow deliveries; the truck may break down and hold up the work. Supplies are sometimes lost in transit and hold up the work; in the business district it is sometimes necessary to do the work at night and Sundays to avoid the interruption of traffic. That causes an increase in the expense of doing the work. That is not shown when you go out to make an inventory of this property and make an appraisal of it.

Omissions of such items as extension bells, ground rods, switches, jacks, push buttons, bolts and other inconsequential items of equipment. Re-sodding of lots after buildings are completed; pumping water out of the basement; water pumped out of manholes; and sometimes it is necessary to redecorate or repair the operating room after equipment is installed; necessary to enlarge openings in the buildings to permit equipment to pass through; temporary 3162 wiring for electric lights; stoves and other conveniences for the use of the installers; it is often necessary to use a better grade of insulated wire in certain localities; abnormal cost of excavating due to sheet water; stenciling poles and cable terminals; re-inforcing poles; sometimes in placing underground conduit it is placed on the inside of the curb, and it is necessary to re-sod for the property owner. Sometimes necessary to re-route the pole leads. Dead drops have not been counted in this inventory; abnormal weather conditions sometime- decrease the amount of production. I have proceeded on the theory that I would have normal weather conditions and I have not allowed in my unit for abnormal conditions. There is an additional cost due to embankments caving in and damage due to heavy rains. Sometimes it is necessary to work overtime to rush the work; in a big job like this you would have to maintain a blacksmith shop to keep the tools in shape; unavoidable delays due to accidents on the work; it is easy to miss certain items of underground cable plant; frequently the cost of aerial cable construction is increased because the workmen are delayed while the electric light company gets their wires out of the road; and omissions of bridle wires on poles; circular loom very hard thing to detect on the wire; there would be delays due to subscribers objecting to wires being run across their property. Additional, cost sometimes in refilling a trench with mud. Delays and danger of building 3163 the conduit system under railroad switch yards; cost of digging test holes which cannot be used later. Occasionally necessary to lay the conduits either wholly or partially under water.

Sometimes necessary to pay damages by reason of blocking traffic in alleys or narrow streets. Occasionally in narrow streets where traffic is heavy excavations must be bridged and all material must be transported either by hand, or in wheelbarrows: subsidiary cables and subsidiary conduits sometimes are not run directly from the manholes to the terminal of the building, and in measuring it the field man has no way of determining that, and they measure and air-line distance. Sometimes in placing underground cables the conduits become plugged and it is necessary to dig up and open the conduit in order to clear the obstruction; water in manholes; manholes are often located under streets where the work has to be done at night. Cable sometimes sticks in the conduit, and it is necessary to pull it out, which increases the cost. And there is the element of human errors. By that I mean that sometimes we make mistakes. That underground cables for example: It is ordered by standard reels and those lengths are measured off before the cable is ordered from the factory, and it is ordered from the factory in these specific lengths, and they are put on the reels and marked with the specific length on them. It is very often in delivering these reels the wrong lengths are delivered; workmen go in for material and get the wrong kind of material. There is an element of human error in every class of work. None of those things would appear when you started in to appraise the property which you find in the City of Houston, they would not be appraised. You could not tell from an inspection of the property that these things did actually happen, but I know from experience in the telephone business and in construction work, that those things do happen. They would happen again if I started in to reproduce this plant.

I will give you a few examples of unintentional omissions.

Mr. Howard: You didn't intend all those that you have read over—they are not intentional omissions?"

Mr. Topping: Those are what I have termed intentional omissions.

Mr. Howard: That is what I thought; you treated all those you have read over as intentional omissions?

Mr. Topping: Yes, sir.

Mr. D. A. Frank: You don't mean that, do you?

Mr. Topping: Under unintentional omissions such items as omissions of plant, errors in compilation of field data, and so forth. Under contingencies—there might arise a labor dispute which would delay the work; there might be extremely unfavorable climatic conditions. You sometimes have demurrage charges on cars. All of those things I know have happened and are likely to happen and will happen again, and from my knowledge of the business and my experience I know that they usually allow from 3 to 5% for the item of contingencies and omissions, that is, as to the property as a whole, and I have adopted the percentage of 4% as a fair allowance in figuring the reproduction cost new of this property.

## Cross-examination.

(Questions by Hr. Howard:)

Under intentional omissions I have such things as water in manholes and delivering the property to the wrong place, and the other things I have mentioned here. These were the intentional omissions.

"Q. Then you get a whole lot of things like that, and make a whole lot more, and add \$350,000.00 to this plant for good measure?"

"A. I have added 4 per cent."

"Q. \$350,000.00 practically?"

3166 Mr. D. A. Frank: Is that added for good measure?"

"A. No, sir, that is the overhead expenses."

That is based on the allowance made by the Courts and commissions and experience. I have had considerable experience in valuing plants of this magnitude, but not in building them, but I have been associated with work of this magnitude. The inventory at Fort Worth was made jointly by the City and the Telephone Company, that is, the field count of the property. We made a careful inventory and went over it again and found an item of approximately ten or fifteen thousand dollars. Also we found an attachment on a building, I don't remember exactly what, but it seems to me that it was some sort of coal conveyor. It had been overlooked. Also the sidewalks and fences had been omitted, around the buildings and some fences around some yards. That is all I can recall at this time.

\* \* \* \* \*

## Redirect examination.

(Questions by Mr. J. D. Frank:)

I do not go around after I have made an inventory of property in this way, and have made my appraisal and check it up to try to discover omissions which have been made, and that  
3167 was not done in the Fort Worth case. The property was counted jointly by the Telephone Company and the City and we made a careful check of that before we finally completed the inventory for the purpose of discovering whatever errors existed. These other things which we accidentally discovered, were after we had made a careful check of the inventory. We do not go around and re-check these things after we have made our valuation of the property, for the purpose of discovering the omissions. Even if we were re-checking and looking for omissions we could not determine what contingencies existed.

\* \* \* \* \*

Yesterday afternoon in response to questions propounded by Counsel for the City I used some figure of two and three-quarter

million dollars with reference to the Fort Worth property. That was my estimate of the reproduction cost, new, of the physical property. As a matter of fact, the Master found as a fact, from the records, that the value of the Fort Worth property was something over three million dollars. As compared to the Houston Telephone Plant the Fort Worth Plant has about half the amount of plant and approximately half the amount of stations that the Houston plant has.

3168 In my omissions and contingencies I have allowed 4% in this case. I do not always allow 4% in every case, but it varies from 3 to 5%, according to how the units have been built up, and other facts in connection with the plant. In the Fort Worth case I allowed in the units for loss and waste of material, which I didn't allow in the Houston units. I therefore added that item into my contingencies and omissions, using 4% in this case. That is why I used a higher percentage in this case than I did in the other.

Cross-examination.

(Questions by Mr. Howard:)

In the Fort Worth valuation I represented the City of Fort Worth. I did not put a final value on that property. I was requested only to determine the reproduction cost new, and that was the figure I submitted. I was requested by the City not to include anything for going value. My figure, as compared with the same thing as determined by the Company's engineer, was a little lower but I do not remember exactly how much, along about 7% lower. I did not go into the record cost for the City of Fort Worth in that hearing, but built it up on the reproduction cost. We both adopted the reproduction cost, new, theory up there.

3169 Redirect examination.

(Questions by Mr. J. D. Frank:)

My next item of overhead is engineering, 5%. The item of engineering includes the salaries and expenses of the engineering department necessary in preparing the plans and specifications for the construction work, the preparation of estimates and reports, and the checking of the plans and specifications and completed work, and the cost of testing and inspecting the work after it has been completed. Proper engineering is one of the very essential expenses, for it insures the most practical plant, most economically distributed, and placed in the most advantageous position so that every dollar will produce the largest return. The engineers inspect the work. They first lay out the work for the construction forces, and they periodically inspect the work to see that it conforms to the specifications, and when the work is finally completed, they inspect it to see that there is no faulty construction. It requires a corps of engineers, draughtsmen, stenographers, and is one of the real factors

in the erection of the plan. Those men do not just prepare the plans and specifications and then let the matter drop but they follow it up and inspect the work as the work progresses, and then when the work is finished they make a final inspection. It would

not be possible to construct a property of this magnitude  
3170 without any system whatsoever without the employment of these engineers. If you wanted to produce a plant in the most efficient and economical way it would not be possible to construct it without having the supervision of competent engineers. I used the figure of 5% there. That is a percentage that I have always used. I have found from my experience that it is reasonable and fair, and it is the commission's and court's usual allowance. In other words, in order to construct \$100 worth of property, you would have to have an item of engineering expense amounting to \$5.00 on each \$100.00 worth of property. That is the allowance usually made by engineers and commissions. They do not always make an allowance of 5%, but it varies from 4 to 6%. Five per cent is the amount that is customarily allowed.

Cross-examination.

(Questions by Mr. Howard:)

I would not say how many men it would take to engineer this plant and do it right because I haven't attempted to figure that out in this case. I haven't given it any thought. I know five per cent to be a reasonable and fair allowance, and one that is customarily used by reputable engineers and allowed by the courts and commissions. Various commissions have allowed it.

3171 Mr. D. A. Frank: Every one of them.

I have given it consideration but I haven't worked it out in this case. I never worked it out in any case but that is the recognizes percentage that is usually allowed. Five per cent of six million dollars would be three hundred thousand dollars for employees in this particular line of work in the construction of this plant and I would consider it money well spent, and wouldn't expect to be able to reproduce this plant with any less expenditure. I do not put that in there just because somebody else said it was the right thing to do, but from my own knowledge of the business I know that expense is incurred in the construction of every plant if it is constructed in an intelligent and economical manner. I haven't figured it out in detail, but have adopted it from others.

Redirect examination.

(Questions by Mr. J. D. Frank:)

In connection with some of the overhead expenses the question of the economical construction period arises. I have prepared an exhibit treating that subject.

Mr. J. D. Frank: We offer this exhibit in the economical construction period in evidence as Plaintiff's Exhibit No. 33.

3172 (Thereupon said Exhibit was received in evidence and marked Plaintiff's Exhibit No. 33, and said Plaintiff's Exhibit No. 33 is transmitted herewith in exhibit file.)

The first step in attempting to arrive at the value of this property would be to consider the processes that a man would naturally pass through. To reproduce this property it would require, as I have estimated, one year to do the preliminary work. That is, a man would first want to employ able counsel to search the statutes of the State to see if there were any objectional features, or any reason why he wouldn't care to make an investment of this magnitude in this State. After he had satisfied himself on that, the next step would be to determine whether or not the community would patronize and support the class of service he would have for sale. In connection with that he would have to make a commercial engineering study to determine approximately how many telephones he could secure, and the approximate amount of money that would be required. After that he would secure from the City a franchise or permit, and that usually takes some time, and I have estimated to do the preliminary work would require approximately one year's time. I take three years as the actual construction period.

At the end of the preliminary year I am ready to purchase the land. I would purchase the land and in the first six months I would arrange with the architect for designing and drawing the plans and specifications for the building. I would then start the erection of the building, and as soon as the building was far enough along I would begin the installation of the central office equipment. In the meantime other work in the plant would be in progress. As soon as the central office has been located, work would start on the underground plant and the pole plant. In other words, I wouldn't do the work by piecemeal construction, but would have the various parts of the plant going up at the same time. I would place it just as fast as I could economically. I have estimated that it would require three years from the time I started the plant until it is finished and finally come into service. In other words, that is the construction period. I do not believe it would be possible to do that construction work in less than three years' time—it might be possible, but in my opinion if it was reproduced in less time it would cost more money.

The next item of expense under overhead is "Public and Employees' Liability Insurance and Taxes, Legal and Administrative Expenses During Construction 4 per cent." I got that 4% from my experience in the business and I know that this is a fair and reasonable allowance. If I was attempting to reproduce this property I would not carry the risk of suits brought by employees, or by the public in accidents that occur during the construction period.

3174 I would prefer to pay a premium for that protection. That is generally done by all large employers of labor that is, they carry this employees' liability insurance in order to protect themselves against damage suits due to accidents.



That item of Taxes there is an expense during the construction period, money that would have to be paid out from capital. There is no revenue from which to pay these taxes, and it is an expense which is properly a capital charge. I know that the Interstate Commerce Commission has made a ruling with reference to that, they make allowance for Taxes during the construction period. Under the rules of that commission it is treated as a capital charge. As a matter of fact there is no revenue coming in during the construction period and that is why it is capitalized.

The next item is "Legal and Administrative Expense During Construction." That is the legal expenses that would be incurred during the period, and the administrative expense, such as general supervision by the executives in the administration of the business. That administration expense, as I understand it, is what is sometimes referred to as general expense. I have made a *competition* for the purpose of determining whether or not that 4% is a fair and reasonable allowance. I knew from experience that 4% was a conservative

figure to cover those items and I adopted that, and then later  
 3175 on as a check I worked it out to substantiate it. For instance, Taxes, I have estimated at \$88,408.00. I determined that by taking the actual amount of money paid in taxes by the Telephone Company in taxes for 1919, and dividing by the amount of physical property obtained the rate of 1.16 per cent of the reproduction cost new. I have assumed that I would pay the same taxes which were paid in the year 1919 and I took that as a base to get a percentage upon which to work. I have, in making this computation, made allowance for the fact that under the laws of this State you have only to pay taxes on such property as is owned by you on January 1st of each year. I get as the total amount of taxes \$88,408.03.

The item of Public and Employees' Liability Insurance, I got a figure of \$64,836.08 on that. The insurance is based on so much per \$100.00 pay roll. I estimated the approximate number of labor in the plant and then applied a rate per \$100.00 and got the total amount of \$64,836.08. I made a *competition* with reference to the other item and worked it out in dollars and cents, and got as the total \$293,990.55. That does not work out 4% of the reproduction cost new of the physical property, it worked out 5.26 per cent. Four per cent would amount to \$223,532.88 and that is the figure that I have used, in this case.

\* \* \* \* \*

3176 The next overhead expense is interest during construction.

The reason I figure interest during construction in making an estimate of what it would cost to reproduce this property is because the money would be invested in the plant with no revenues derived therefrom, and the investment would lie idle during the construction period of three years. In figuring interest during construction it is my practice to take one half of the money for all of the time, or all of the money for one half of the time but in this particular case I have taken all of the money for one-half of the time. I used a rate of interest of six per cent because I wanted

to be entirely reasonable. I think that is a low rate of interest. However, in my opinion I could not go out into the open market and get money at 6% to invest in a public utility of this kind, in a Telephone Plant. I base that statement upon the fact that I have had considerable experience in the last few years in endeavoring to secure bonds for Telephone Companies. I might cite one instance where we made a valuation for one company, and the property valued something like \$140,000.00 or \$150,000.00. It was during the war period and the pole lines were overtaxed, and this particular plant had borrowed money here and there endeavoring to keep up and furnish the proper toll facilities, and he wanted to bond the property and assemble them all in one lump sum. He

3177 tried to bond it for \$100,000.00, but the best offer he could get was \$85,000.00. That was on a valuation of \$140,000.00.

I know of other instances where bond men told us that they were not interested at all in a telephoen proposition on account of the rates, the rates were too low, inadequate to pay a reserve and allow a return. They could invest their money in first class real estate and farm loans and be perfectly safe. That is, the hazard would be greater in an investment of this kind than it would be where they had their money which they had to loan out in a safe and secured lien. I know that the Interstate Commerce Commission makes provision with reference to the inclusion of interest during construction. In figuring the interest on that I took the rate of 6%, that is the equivalent to  $\frac{1}{2}$  to 1 per cent per month. I then took the total construction period of 36 months, and one-half of 36 equals 18 months. At  $\frac{1}{2}$  of 1 per cent per month would equal 9 per cent, as the total amount of interest. I got as the total amount for the item of interest during construction \$502,948.98. That is the total amount which I have included in my estimate as the interest which would have to be paid during the construction period.

\* \* \* \* \*

We have covered all of the overhead expenses. On page 1-B my summary the next item of material there is equipment. The first item under equipment is Central office. Central Office equip-  
3178 ment consists of the switchboards, the terminal frames, the testing apparatus and other electrical devices used in connection with the operation of the plant. I have included there as the cost of reproducing the central office equipment \$1,894,837.00. And as other equipment of central office \$17,167.00 giving a total equipment of \$1,912,004.00. That other equipment of central office consists of the furniture and fixtures, operators; chairs and all of the equipment in the office not attached to the circuit, or a part of the central office equipment.

In estimating the cost of reproducing that property I wrote a letter to the Western Electric Company at Chicago and furnished a list of the equipment and asked them to make a price for installing this equipment at this time. I am now speaking of central office

equipment which does not apply to the other equipment of the central office. The reason I wrote the Western Electric Company is because they are the Manufacturers of this equipment. They are engaged in selling this equipment to the public generally, they sell it to the Bell Telephone Company and also to independent companies and to anyone who wishes to purchase that particular property. When I ask them to make an estimate of what it would cost to reproduce that central office equipment I did not explain to them what the purpose of my request was, I just merely asked  
3179 them to furnish a contract price at which they would reproduce this equipment at this time. I did not write to any other Company in regard to Central Office equipment because there are no other companies that manufacture this identical equipment and that is the only place at which I could have gotten it. The price furnished to me was furnished to me as if I was an independent telephone man, or some man who wanted to reproduce an exchange of this kind. I sent them the quantities of property and asked them to submit a price, what it would cost to reproduce that property in Houston, installed complete, and then I adopted the figures which were given to me by them.

Cross-examination.

(Questions by Mr. Howard:)

The Western Electric Company is the only company that manufactures this particular equipment. However, other companies manufacture equipment that is used for the same purpose. But I was obtaining a price on this identical equipment. I presume that equipment furnished by the other companies would perform the functions reasonably well. In facing this proposition of reconstructing this plant, or reproducing this plant, I did it upon the assumption that I would be compelled to buy my material  
3180 from the Western Electric Company because that is the only place I could buy it. That is the only place, and I made my figure based upon that assumption, that I would have to go to them for the equipment. I did not inquire as to whether or not I could get substantially as good equipment from some other company, because I was pricing the identical equipment.

I am not qualified to say what relation exists between the Southwestern Telegraph & Telephone Company and the Western Electric Company. As to whether they are closely allied companies is all hearsay on my part.

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Redirect examination.

(Questions by Mr. J. D. Frank:)

The next item of property is "Subscribers' Station Equipment." That is divided into five classes, Apparatus Installations, PBX, Box

wires, Booths and Special Fittings. Those matters are treated in detail on the following pages, beginning on page 10.

The first item there is station apparatus which is the deskstand, wallset and so on. I have not included transmitters, receivers  
3181 and induction coils for the reason that it was my understanding they are not owned by the Southwestern Telegraph & Telephone Company. I got my price on this material from the Western Electric Company. The total apparatus, as shown on page 1-B is \$362,295.00.

The next item on page 1-B is the installation. That is the cost of the inside wires and the labor in stalling the telephones. That amount I know from my experience in the business is the reasonable amount to allow. In other words, I have figured out the cost of making these installations and included them. That is the wiring and equipment that goes inside of the house other than the telephone sets themselves, that is the wiring and ground rods and labor necessary to place the telephones.

The next item here is PBX which is Private Branch Exchange. These small switchboards placed around in commercial houses and hotels where they have a number of telephones. I got my prices on that from the Western Electric Company who are also the Manufacturers of that particular equipment.

The next is the block wires. We built up the unit costs and arrived at this figure of \$7,649.00 as the cost to reproduce this class of plant. That appears on page 1-B.

3182 The next item is Booths and Special Fittings. I got my prices on that from the western Electric Company. Counsel asked me a few minutes ago with reference to other equipment. If I got prices on other and different equipment than the equipment which is in use here, when I got those I would not have an estimate of the cost of reproducing this exchange, but would have an estimate of the cost of reproducing something else. What I am trying to do is to estimate the cost of reproducing this particular exchange.

I get as the total subscribers' station equipment \$539,240.00.

Cross-examination.

(Questions by Mr. Howard:)

I did not get prices from anybody else on any of these items because this equipment was all Western Electric Equipment, manufactured by them. However, there are concerns that manufacture similar equipment.

Redirect examination.

(Questions by Mr. J. D. Frank:)

When I say similar equipment I mean it is similar to the kind in use in Houston, but not the identical equipment.

## 3183 Cross-examination.

(Questions by Mr. Howard:)

I don't know whether it is as good equipment as this, or not. I wouldn't expect to find it any better, because I know the Western Electric Company is constantly experimenting to keep their equipment up to date. The other companies may also be constantly experimenting, but because of my connection with the Western Electric Company I know that to be a fact.

Redirect examination.

(Questions by Mr. J. D. Frank:)

There is no other Manufacturing Company in the United States as large as the Western Electric Company, not to my knowledge. I know that they do sell to Tom, Dick and Harry as well as *the* the Bell Telephone Company, they sell to the general public, anyone that cares to buy. They send out their catalogues to all telephone companies throughout the United States and actually sell material to the various telephone companies throughout the United States.

The next item of property is the distributing system. Under distributing system I have included poles, aerial cables, aerial wires, underground conduit main, underground conduit subsidiary, 3184 underground cable main, underground cable subsidiary, and right of way. I have already told you how I got my prices on poles. I wrote to several supply houses and got their figures. I got my prices on aerial cable by writing three or four manufacturers asking for quotations, and I was unable to get a quotation from anyone except the Western Electric Company. I mean that then others did not reply to my letters. I wrote the Standard Underground Cable Company, and they replied in this manner: "Your communication of November 4th addressed to our Home Office at Pittsburg has been referred here for attention. We note you have asked for prices based on the A. T. & T. specification. We are familiar with the A. T. & T. specifications only to the extent that specifications of the A. T. & T. or Bell properties are very occasionally submitted to us in connection with inquiries for cable to be purchased by properties allied with the A. T. & T. interests. It is sometimes possible for us to quote to those specifications as they are written, but more often it is necessary that we deviate from them in order to quote on our standard product. Aside from the fact that the list of sizes and descriptions submitted in your letter would entail a vast amount of clerical work for which we have no one available at this time, we believe that you can be much better served by submitting your request to the telephone cable manufacturer who is most familiar with the various A. T. & T. specifications and is constantly building cable of those specifications for 3185 various interests. We are sure that they would be better able to give you accurate information than this company

would. Answering the closing paragraph of your letter, we would not attempt to forecast what the prices on telephone cable would be a year hence, or even three months. Prices on telephone cable as on any other manufactured product depend almost entirely upon the fluctuations in the cost of materials, labor and transportation. These factors of cost are more disturbed and erratic now than they ever have been, and any prediction as to what the cost of any product would be a year hence would be the merest guess work so that one person's guess would be perhaps as good as another."

I was unable to get quotations from these people. And I have also written to the Stromberg-Carlson Telephone Manufacturing Company and they replied:

"Replying to your letter of November 5th, requesting the present market price on various sizes of paper insulated lead encased telephone cable.

"As we do not manufacture this class of cable, we respectfully refer you to the American Electrical Works, Phillipsdale, R. I., whom we know will be glad to furnish you with the information you desire.

"Regretting our inability to serve you at this time, we remain."

3186 I also wrote the American Electrical Works at Phillipsdale, Rhode Island, and they replied:

"We beg to acknowledge receipt of your esteemed favor of November 5th, and regretting exceedingly that it is impossible for us to comply with your request in this instance owing to the changing values of raw materials and our manufacturing costs through which we are passing at this time our cost department is simply swamped with work. It would be impossible for us to even start work upon this under two month-.

"We would like to be accom-odating but the above is the situation and we cannot afford to delay our regular cost work which is necessary in our business daily, and inasmuch as you state you desire prices by November 15th, it is utterly impossible for us to take care of you."

Then I wrote the Western Electric Company and they furnished me the prices on the cable.

"Q. Take up these other items, Mr. Topping, and tell us what prices you have used on them. Take underground conduit Main and subsidiary, and cable Main and Subsidiary, and tell us where you got your prices on them."

"A. In the underground plant I obtained prices on the vitrified clay conduit from the Clay Production Company of Brazil, Indiana. On the fibre conduit, from the Fibre Conduit Company, of Orangeburg, New York. On the Brick used in the underground work, from Barthold and Casey, at Houston, Texas. On Manhole

3187 castings from the Lloyd Metal Company, Houston, Texas.

On Iron pipes, from the F. W. Heitmann Company, Houston, Texas, and on cement and sand from W. L. Macatee, and on Gravel



from the Texas Gravel Company, both of Houston, Texas. Then I applied my prices to build up my unit cost, as I have heretofore explained, and arrived at the cost of reproducing these various items of property.

The last item I have down there is right of way, \$32,565.00. It is my practice to allow \$1.00 per station as the right of way charge, and that is based upon my experience and knowledge of the business. I know that there are problems coming up that cannot be charged to any other class of plant, and I usually set them out under this heading of right of way. It has been my experience and observation when engaged in the telephone business that the expense in connection with the right of ways will average \$1.00 per station. In reproducing a plant of this size, it would be necessary to have someone, or one or more persons to look after right of way matters, to see property owners and get permits, cables would have to be attached to buildings, and you would have no authority to attach the cable to the buildings without the permit of the owners, nor would I, without his permission as it would be expensive to remove them in the event he objected, and in order to play safe I would secure his permission. Sometimes it is necessary to pay for the privilege  
3188 of putting it on private property. And I understand in Houston the City requires the telephone company to take out a pole permit, for which a charge of 25 cents per pole is made for each pole set, and in addition to that a charge of 50 cents for each 500 trench feet of conduit. I get as the total cost of reproducing the distributing system, \$3,527,340.00.

#### Cross-examination.

(Questions by Mr. Howard:)

"Q. Mr. Topping, you read off a while ago a list of six or eight material men, and as I understood you, aside from the aerial cable, you sought bids from only one person or firm. On aerial cable you had several letters."

"A. We asked for other bids. For example, on iron pipe we asked the N. O. Nelson Company to furnish prices on iron pipe, and they replied in this manner: "We are not in position——"

"Q. (Interrupting.) This is just a small branch of the N. O. Nelson Company?"

"A. I merely understood they handled iron pipe and wrote to them."

I did not tell them I was going to build a telephone exchange and would need a lot of pipe, I merely asked for prices on  
3189 pipe. I did not ask for prices on 100 feet or 1,000 feet. I did not go to anybody except the Texas Gravel Company for gravel, nor to anybody else except the Macatee Company for Cement. I think we went to someone else besides the Lloyd Metal Works for castings. I did not tell anyone I was going to build a big telephone exchange in Houston, but I told them that I would like to have prices on this material for use at Houston. I didn't tell them how much or how little I would need. Yes, I regard that

as a good way to get prices when I am in earnest on a problem of constructing a property.

\* \* \* \* \*

Redirect examination.

(Questions by Mr. J. D. Frank:)

I am familiar with the character of other Telephone Companies in comparison with the Telephone plants which are constructed by the Bell Telephone Company. They are not, generally speaking, better telephone plants than the plants erected by the Bell Telephone Company, but as a matter of fact, the plants erected by the Bell Telephone Company in nine cases out of ten are more efficient than the ones constructed by independent companies.

The next item on page 1-C is General Equipment. The 3190 first item under General Equipment is furniture and fixtures, local. I have estimated as the cost of reproducing the furniture and fixtures, \$27,788.00. In arriving at that I took the original cost of the furniture and fixtures and attempted to price them, and I found that the manufacturers of a large part of the desks and so forth have since gone out of business and it would be practically impossible to get accurate information. I then made a study to determine how much furniture and fixtures have advanced, and I found it ranged from 50 to 100%, in some cases more, on practically all of the items except typewriters and adding machines, and some of the standard equipment. I used the price of the typewriters and adding machines and to the balance of the furniture and fixtures I added approximately 50 per cent. That was the only way that I could get a fair estimate on it. I merely took 50% of the local furniture and fixtures. There are furniture and fixtures located in Dallas from which this property is supervised by certain officials, and if those officials were located in Houston I have estimated that it would require 50% more furniture. That is, if all the operating officials connected with the Company had their office in Houston they would have to have additional furniture. I used the same prices on that, the same identical prices that I used on the local furniture and fixtures. I merely took 50% of the local furniture and 3191 fixtures. I do not mean that if all the general officers were located in Houston, but those that would be necessary in the operation of the Houston property. Just those officials who would necessarily be used in supervising the property.

The next item is "Tools". I have figured for tools \$10,591. That is my estimate of the reproduction cost of the tools. I did not take the original cost and add something to that but I figured out the reproduction cost of the tools based on present day prices.

The next item I have there is motor vehicles and I find as the cost of reproducing the motor vehicles \$12,467.00. That is the cost of the vehicles as furnished by the Telephone Company. In other words, I took the original cost on that. I took the original cost because the information that I had at hand was not applied as

to the years the cars were purchased, and it would have been necessary to have gotten complete information as to the year and the model of the cars, so I took the original cost on that, it being a small item.

I get as the total general equipment \$65,739.00.

I get as the total physical property \$6,817,753.00.

The next item that I have here on page 1-C of my appraisal is "Working Capital." It includes supplies and cash. I have estimated that amount to be 4%, or \$272,710.00. That is 4% 3192 of the estimated cost of reproducing the total physical property.

Working capital covers cash on hand necessary in the payment of bills, and other expenditures that are incurred, and the supplies represent the stock on hand which is necessary in the conduct of the business to keep the plant in operation. It would not always be possible to obtain items on short notice and it is necessary to maintain a stock so that prompt replacement can be made in case of storm or things of that kind. That covers not only the cash which is required to run the business, but also the supplies.

The reason I have taken 4% is because from my experience, working capital usually works out around 4% and I considered that, after considering all the facts in this case, to be a reasonable percentage. It is customary to make an allowance of that kind in these valuation cases for supplies and cash. I know the percentage that is usually allowed, of the total physical property, and it runs from 3 to 7% in telephone cases and a list that I have of Telephone cases tried before Public Service Commission, it ranged from 3 to 7% and the weighted average for the fourteen properties amount to 4½%.

#### Cross-examination.

3193 (Questions by Mr. Howard:)

I got that list of telephone cases from my office in Kansas City. I don't just remember where I did get it, but I don't think I got it from a Telephone Company. It may be possible. We have a lot of information coming in there. We get these P. U. R. reports constantly, and we tabulate information from those reports. The Telephone Company did not furnish me its Bank balance for any particular day during the time I was making this estimate. I began the work on it on the first of November and completed it about the 15th of December. They did not show me how much money they had in the Bank for carrying on the business that day. They asked me to furnish this value based on my knowledge and experience of the business. I did not go into the field of conjectures and estimates because I am familiar with the amounts that have been allowed before.

"Q. But I am not asking what the commissions have allowed, I am asking you why you take and why your valuation engineers, and the Commissions for that matter, go off into the field of conjecture

about matters that are susceptible of being exactly determined. Did they tell you what supplies they had on hand during the time you made this estimate of reproduction?"

"A. Why, just a few items."

3194 They told me just a few items but the items did not consist of the amount that would be required to handle a property of this size. Possibly they could have furnished me that and possibly they could have furnished me their bank balance but what I am endeavoring to do is to determine an independent value of this property. I am not trying to determine something that does not exist, but I am trying to determine a fact. I am trying to determine, in my opinion, the value of this property.

"Q. All right, now, you have gone and determined a lot of it by estimating what it would cost to reproduce it, then you have gotten that far along, we understand that, and then after you get that far along, there is a certain definite property that they have on hand, why do you go out and figure and estimate and try to find out what other Commissions have allowed, when all you have got to do is to look at the property and appraise it? What is the sense of it?" I am trying to get your idea now, as a practical engineer. Why do you resort to that indirectly when you have got a direct and simple method of telling us just how much supplies and cash these people had *investigated* in this plant, at that time?"

"A. I wanted to determine in my opinion what is the value of this property. The Telephone company may have had an  
3195 excess of supplies."

"Q. Oh, I understand, you have told us two or three times that you reproduced it according to this inventory and put in a little *or* overhead charges and omissions and contingencies; we have got that all in and gotten this plant up to nearly eight million dollars. We'll let that go, but that you are trying to reproduce this plant, the value of their properties, now in addition to those things that have gone into the plant, we all understand they have got to have something to run their business and what they are entitled to is whatever they have got in this business. Why didn't you find that out? Why didn't you tell us about that instead of telling us about this conjecture?"

"A. They may have had too many supplies on hand.

"Q. Well, if they had them on hand, they would be in service here, wouldn't they, and be a part of the plant?"

"A. What I was trying to determine was what was the fair value of the property."

"Q. Yes, and I am asking you this simple question. Instead of going around, these methods of indirection and conjecture about it, why didn't you say, what have you got on hand here? What are you using? How much money have you got in the Bank to handle the pay roll and things like that?"

"A. Because I know that this measure would give me a reasonable value."

3196 I didn't know that the other measure would.

The other measure would not give the exact value because they may have had too many supplies on hand or had too small a quantity of supplies on hand. They couldn't run very well if they had too small a quantity but they may have orders in for other materials, but they had not arrived yet. I have not undertaken to determine how much should be on hand for supplies as distinguished from the pay-roll, but I just used the flat four per cent. That is the general practice among reputable engineers.

"Q. And the more value you get in determining the value of the plant, the more that will fluctuate, if you happen to get a value of eight million dollars on it instead of six million five hundred thousand, the way Mr. Hoag did, why your amount for supplies and cash on hand would vary?"

"A. It would vary, yes sir?"

"Q. Did you ever give any thought to the idea of how the supplies and working capital of a utility that collects its money in advance compared with one that collects its money at the end of the month?"

"A. Well, I haven't given any consideration to that."

I don't know that telephone companies collect a great part of their money in advance. I have been in the Telephone business a long time. But I don't know about local conditions with reference 3197 to that.

Mr. J. D. Frank: Some of them never do pay their bills. You are not going to undertake to prove in this case that we collect all of our bills in advance?

Mr. Howard: No, but you collect enough in advance that you don't have to keep on hand a fictitious amount for working capital, and my suggestion is you don't do it, or you would come in here and show us what it was.

Mr. J. D. Frank: Well, we'll show you that by our accountants. There is no fictitious amount in here at all.

I don't know how much the pay-roll of the Company is, I did not inquire into that. I have made an entirely independent estimate. I do not think it would be more proper to base the percentage upon the monthly earnings than upon the cost of the plant.

Redirect examination.

(Questions by Mr. J. D. Frank:)

What I have done is to make an estimate of the amount of working capital that would be required in an exchange of this size, with the number of subscribers that it has. I have assumed that this would be a fair and reasonable allowance. I am basing that upon 3198 what has been done in other cases. I know that in a number of cases the average allowance for working capital is  $4\frac{1}{2}\%$  of the total reproduction cost new.

Mr. Howard: I suggest, if you are putting the books in evidence, you do that without going over that and proving it up by the witness.

Mr. Duls: The Accounts will do that, Judge.

Mr. J. D. Frank: We are going to give you the exact amount, but it is customary for engineers to do this.

Mr. Duls: You see, Mr. Topping made his estimates independently of the company. We didn't know a thing that he was doing. He was just asked to value the property.

The Telephone Company did not instruct me how I was to make a valuation of this property. They merely instructed me to determine in my own way the value of the Houston property and that is what I have done in this case, absolutely. I have used my own judgment and attempted to make a valuation of the property.

Mr. Howard: They told you they had a rate hearing on down here, didn't they?

3199 Mr. J. D. Frank: Why certainly, he knew that was why he was employed.

Mr. Howard: What is that?

Mr. J. D. Frank: Why, certainly.

Mr. Howard: Well, I am asking him.

They told me they had a rate hearing on down here and that they wanted to use my report as evidence in the case. I knew that. They furnished me the Hoag inventory and told me they wanted prices applied to that. They furnished me the plant units.

With reference to the manner in which I secured quotations as to the prices of various items of material, on some of that property I secured quotations on carload lots, that is, on the major items. Carload prices are considered wholesale prices. On some of the property I did not get wholesale prices, but I used catalogue prices less the cash discount. I have not figured out what per cent of the entire property that I have secured prices on the wholesale basis on and on what per cent of the prices without reference to quantity, but I would estimate that of the material value, that 80% has been figured in carload lots and the remaining 20% I figured without reference to the quantity.

3200 "Q. Would it have made any material difference with reference to that remaining 20% if you had gotten prices on wholesale quantities instead of taking it without reference to the quantity?"

Mr. Howard: He didn't do it and I don't see how he could answer that question.

Mr. D. A. Frank: Well, he could answer that question.

Mr. Howard: I don't see how he could, until he knew what he could have gotten.

Mr. D. A. Frank: Well, you could answer if you bought stamps down here in the Post Office whether you got it at wholesale or retail.

Mr. Howard: Well, but that's not sand and gravel.

Mr. D. A. Frank: Well, that's the way with sand and gravel.

Mr. J. D. Frank: That is what I want to bring out.

Mr. Howard: I don't think people would agree with you.

3201 Mr. D. A. Frank: Well, the mere fact that you don't agree with it is no reason why it is not proper.

Mr. Howard: He says he hasn't done it, he wouldn't know until he tried to do it, that's the idea.



Mr. D. A. Frank: If he had done it before, he would know.

I would like to explain in connection with that on that balance of 20% in taking the catalogue price, we took the quantity price, but that didn't mean carload price. For example, if the prices are quoted in 500 lots or less, 500 to a thousand, or a thousand and over, we took the thousand and over price. I took the largest quantity price in the catalogue but that may not have been the carload price. There would be a great many items of material on which I did not have the carload price. I got the wholesale quantity prices as to the majority of the items constituting the plant here, all of the major items. If I had gotten wholesale prices as to the remaining 20% of the items there, in my opinion it would have made no appreciable difference whatever. It would have been something less than 1%, I would estimate. That is, it would be 1% of the 20%, or the items on which I did not get carload prices.

Page 1-C of my appraisal shows the total physical property, 3202 including the working capital, \$7,090,463.00. The next item that I have down there is Cost of Establishing business. For the cost of establishing business I have taken 20%, or \$1,350,603.00. That is 25% of the reproduction cost new of the physical property, not including general equipment or working capital. I got that 20% from my experience, from studies that I have made in other plants similar to this I know that it would run around 20%. The allowance that engineers make usually in estimating the cost of establishing business varies from 10 to 45%. That 45% I think was a gas case or waterworks, but I am not sure. I have included that item because the value, the figure that I have shown, total physical property, including working capital, is not all of the value of the plant. There are other expenses that are incurred. I have endeavored to reach an estimate that would represent what it would cost to reproduce the physical property and attach the business. The property would be of no service if it didn't have subscribers connected. It costs additional money over and above what I have considered in the value of the physical property to establish this service. I did not attempt to work out this cost of establishing business but I just took this percentage.

If I were to come into Houston, and there was no telephone plant in existence, the first thing that I would do would be to employ competent lawyers to examine the statutes of the State to determine 3203 whether there were any laws that would be adverse to the industry. After I had determined that, I would employ a competent commercial engineer to make a study of the proposition, to canvass the town to determine approximately how many telephones I could secure, to determine whether or not this class of service would be one that would be patronized by the public and used by the public and after I had satisfied myself in that regard, I would ask the City of Houston for a franchise. It would probably take about one year's time to make these preliminary studies and arrangements. During the construction period, there would be items of maintenance and depreciation, your building would be completed, and you would have to have

electric lights and elevators and janitor service in the building. You would have the first cost of issuing the directory. You would have the cost of developing and training a personnel. By that I mean you would have to have employees that were competent to handle various positions in the plant. You would have to have operators, those operators would have to be schooled and instructed and taught how to operate the board. You would have to develop supervisors and chief operators. You would have to train wire chiefs and plant men, cable men, linemen, and you would have advertising, a certain amount of publicity. It costs money to build up records in the various departments, it costs money to sell the service. Undoubtedly a large number

3204 of subscribers would come to the exchange and apply for the service without the necessity of going out and soliciting business from them, undoubtedly they would, but if they did there would be a cost attached to connecting the business. There would be commercial employees who would have to take the subscribers' contracts, explain to them the rates, and determine the class of equipment that the subscriber desired installed. There is an expense of entering the contracts on the records. From this contract is written an order, which goes to the three departments, plant, traffic and commercial, and that order is made in several copies. The Plant Department would arrange for the line facilities, one man in the plant department would assign the cable pair, another set of men would run the drop and install the telephone, and the traffic department would assign the number. Those transactions are all matters of record. I know that the telephone company is actually spending money for those purposes all the time. This is not some intangible thing that I add to the value of this property. In other words, I have attempted to estimate the cost of reproducing this business just as I estimated the cost of reproducing the physical property itself. This is an expense that I would have in addition to the cost of reconstructing the physical part of the plant itself. I have estimated that it would cost something to build up the organization, an organization of this kind.

I could not go out and get employees from any and everywhere  
3205 to run this business, they would have to be qualified. I would have to take all of these employees and train them and of course, I would have to pay them while I was training them. In connection with my consideration of the cost of establishing business, I have not proceeded upon the theory that this business would pay from the first day that I opened the business for serving the purpose, I would assume if I worked it out in detail that it would require about two years development period. I mean I would assume that I could reasonably expect to have 50% of the present number of stations connected at the time the plant was opened for service and that I would connect the balance, or other 50%, within the development period of two years. It is proper to consider operating deficits during that two years development period, that is, it is proper to consider the difference between the expense and the amount of income. That is due to the fact that you haven't the full number of subscribers there, the revenue or income would be insufficient to take care of the expense during that period of time.

## Cross-examination.

(Questions by Mr. Howard:)

"Q. Mr. Topping, I believe the first thing we would do when we started to distribute this million, three hundred and fifty thousand dollars, is to hire some competent lawyers. What did you  
3206 say you would have them do for you?"

"A. The first thing I would have them do would be to examine the statute books of the State to see whether or not there would be any laws that would be adverse to the investment of the State of Texas."

"Q. The Telephone Investment?"

"A. Yes, sir."

"Q. Wouldn't you naturally suppose under the existing conditions where the telephones have been operating here for twenty years and seem to be getting on nicely, others coming in, that you would not anticipate any great trouble about these laws when you would operate telephones?"

"A. I would want to satisfy myself that that was a fact."

"Q. All right, what else would the lawyers do for you? I am trying to get an idea now about what is proper to attorneys' fees."

"A. These lawyers would assist when they draw up a draft on a franchise and attend the council meetings."

"Q. Oh, yes."

"A. And assist in securing a franchise."

"Q. Did you investigate local conditions about what it would be necessary to do in that regard?"

"A. I know the usual steps of procedure."

"Q. Now, how much did you figure you were going to pay these lawyers?"

"A. I didn't figure."

3207 "Q. You didn't figure that at all?"

"A. No, sir."

"Q. You don't know anything about then how much your lawyer was going to be paid?"

"A. No, sir, I haven't figured that out in detail at all."

"Q. Well, let's say twenty-five or fifty thousand dollars?"

"A. I haven't figured it out."

"Q. But you just think it is worth something, but you don't know what?"

"A. There is an expense connected with it."

"Q. Notwithstanding that the telephone business has been going on and this plant has been operating here for a long time, you didn't go over to the City Hall where they have a competent young man over there that they pay the magnificent sum of Two Hundred Dollars a month, that prepares these franchises; they all run along about the same?"

"A. No, sir, I didn't take into consideration."

"Q. One is about a copy of the other and they all run along about the same, you didn't take that into consideration at all?"

"A. No, sir, I know that it would consume time and money in obtaining a franchise."

"Q. Would consume time and money?"

"A. Yes, sir."

3208 "Q. You didn't know that you could come down here before business commissioners like ours and present your own franchise and that the services of a lawyer wouldn't be necessary for the machinery at all, you didn't find that out, did you?"

"A. I wouldn't present a franchise without it having been passed by the lawyers."

"Q. You would have one passed on by the lawyers?"

"A. Yes, sir."

"Q. But the one that would be finally entered would be one that the City lawyers would approve, wouldn't it?"

"A. Well, it might or might not."

"Q. It wouldn't be very apt to get in there until the city lawyers approved it, would it? Now, another thing, we have already had one set of lawyers in this thing. Now, I thought they were doing some of the work of some kind, what are they going to do, just draw the \$7,500.00 a year?"

"A. Those are the legal services during the construction period of three years. This service that I referred to is incurred in the first year."

"Q. Didn't you mention getting the franchise this morning would be one of the things that these lawyers did, and finding out the laws would be one of the valuable services these attorneys would render for you?"

"A. No, I was speaking of the preliminary year."

"Q. Why not have it all done at one time?"

3209 "A. In explaining my exhibit, I was explaining why I have shown a four year period on the exhibit. One year, the first year, was the preliminary year or the year in which these matters would be taken care of. The other years are the construction period."

"Q. Now, you are speaking from your experience. What has been your experience in regard to what lawyers charge you for doing all this work?"

"A. Well, whenever they have charged me personally, they have charged me plenty."

"Q. Well then, you don't know anything about the services of these lawyers or what you are going to pay them. Well then, the next thing you are going to get this competent commercial engineer. What is he going to do for you?"

"A. He is going to make a preliminary study of the situation."

"Q. How long is that going to take him?"

"A. That would consume several months."

"Q. Well, about how many months?"

"A. Well, he ought to complete his work in six months."

"Q. Well, what *you* are you going to pay him a month?"

"A. I haven't attempted to—"

"Q. (Interrupting.) You don't know what those men are worth."

You have told us now, you see you are coming in here, Mr. Topping, and saying that the people of this community are going to pay you upon these investments and we want to learn something about them. Now, haven't you investigated enough to know about how much that kind of an engineer knows?"

3210 "A. I could work out that entire cost of establishing business in detail. I have worked it out a number of times."

"Q. I don't care for you to demonstrate your knowledge, but I wanted to see upon what basis you have set up these expenses in the past. It is what you have done in the past that is interesting us now; what you have done to familiarize yourself with the value of that commercial engineer; you have any idea? Approximate it."

"A. I haven't attempted to figure it out in this case."

"Q. A thousand dollars a month would be good enough."

Mr. D. A. Frank: He doesn't mean one man.

"A. Well, I mean by that, one man and his organization."

"Q. Well, how many men in his organization?"

"A. I haven't figured it out."

"Q. Have you any idea?"

"A. What they do, an engineering study would mean *they* they would go out and spot the houses and divide them up into various classes."

"Q. It wouldn't take much of an engineer to do that, would it?"

"A. Well, the field men might not be of as high a type as the commercial engineer, but it would take a man of ordinary intelligence."

3211 "Q. Well, have you any vague idea or approximately close idea about how much—what that organization *exists* of?"

"A. No, I haven't worked it out in this case."

"Q. Haven't worked it out at all?"

"A. No, sir."

"Q. Well, suppose we would take a guess, would \$50,000.00 be a pretty good amount for that work?"

"A. I wouldn't care to answer it because I haven't worked it out in detail."

"Q. Or these Lawyers' fees, suppose you get \$50,000.00 for these lawyers?" How about this franchise, what is that going to cost you?"

"A. I haven't attempted to analyze that."

"Q. You haven't attempted to analyze that at all?"

"A. I know that it would cost a sum of money."

"Q. How much?"

"A. Well, I don't know."

"Q. An idea of whether it would cost Two hundred and Fifty Dollars?"

"A. I haven't figured that out."

"Q. Or twenty-five thousand dollars?"

"A. I haven't figured that out."

"Q. Well, let's talk about this maintenance. Can you give us any light on that? That is No. 4 on the set-up?"

"A. There would be maintenance on the plant during the development and construction period."

"Q. About what would that be?"

3212 "A. I haven't figured it out."

"Q. Don't know anything about it?"

"A. No, sir, except I know there would be an expense there."

"Q. All right, then the next thing that seems to be of first importance is printing the directory, what is that going to cost you?"

"A. I haven't figured it out."

"Q. Any remote idea at all about what it would cost?"

"A. I haven't figured it out in this case. I know there is an expense incident to that first directory."

"Q. Well, we are dealing now with that million, three hundred and fifty thousand dollars and I would kind of like to get it analyzed. That probably would cost three or four thousand dollars?"

"A. I have no idea."

"Q. You couldn't even approximate whether that would cover it or not?"

"A. I haven't worked it out in detail."

"Q. Let's see, the next thing is training girls. You can tell about how many girls it would take to operate this plant, can't you. You have been in the telephone business a long time, Mr. Topping. Now, we want to know approximately about how many girls you are going to use to operate this plant?"

"A. I don't know but I would estimate there is something like five or six hundred girls."

3213 "Q. All right, we have got something to go on. How much is it going to take to train a girl?"

"A. I haven't attempted to figure it out."

"Q. You haven't attempted to figure that out at all?"

"A. No, sir."

"Q. You don't know whether it would take ten, fifteen, or twenty-five or one hundred dollars to train a girl?"

"A. I haven't attempted to figure it out at all."

"Q. Well, before you can figure, we have got to have some fundamental knowledge of what we are dealing with, and you are a valuation engineer?"

"A. I have worked up the cost of establishing business in other cases and I am familiar with all the expenses incurred and I know what has been allowed in other cases and plants similar to this."

"Q. I am not speaking about what has been allowed, I am speaking about the cost of it, I am asking you as a valuation engineer familiar with the telephone business, you have come here to tell us now about training girls and printing directories and employing girls, something about the value of it, and you can't tell us how much it would cost to train one girl?"

"A. I haven't figured it out."

"Q. Or how much to train five hundred. Would it cost as much to train one girl or would it cost as much to train five hundred girls proportionately as it would one girl?" What is your answer?"



3214 "A. Why, it would be my judgment that it would cost more to train one girl than it would if you were training a large number of girls per operator."

"Q. Do you have any idea how much more?"

"A. No."

"Q. All right. What advertising are you going to do?"

"A. Why, you have advertising in the newspapers."

"Q. For what?"

"A. Various things. That you were building your telephone plant."

"Q. Everybody in the City would know that if you were building a big telephone plant here, wouldn't they?"

"A. They probably would."

"Q. Well then, why would you put it in the paper and pay advertising rates on it?"

"A. You would have announcements in the newspapers."

"Q. For what, what announcements?"

"A. Matters of interest, a matter of education."

"Q. Who would it educate and how?"

"A. It would educate the public."

"Q. What are you going to tell the public? Let's see whether you are going to educate them, or not?"

"A. Why, you would advertise like any other manufacturer of goods. You would advertise your company."

"Q. Keep an ad running in the paper all the time, that we are going to build a telephone plant and we are going to give service, is that what you mean?"

3215 Mr. D. A. Frank: Absolutely.

"Q. (continued). Well, everybody would know that, everybody would know that you were going to build a plant here and are going to attach subscribers and are going to charge for it when you got through, you are putting substantial things in here upon which you are going to attach a return. Now, let's know what you are going to do?"

"A. Why, any manufacturer advertises his products."

"Q. I know that a man that is selling shoes does some advertising and I know a man that is selling patent medicines does a good deal more, but let's get down to telephone companies where there is just one and everybody in town knows it and knows that they are going to have a new telephone company; now, what are you going to advertise and what are you going to tell them when you advertise?"

"A. You would run an educational campaign."

"Q. To educate who and what?"

"A. As to the service."

"Q. Did you investigate conditions here, Mr. Topping, to know whether the people are familiar with the telephone service or not? You are building this plant up here in Houston with 160,000 people, we are people—"

"A. (Interrupting.) Yes, sir."

"Q. Did you make any study to determine whether or not these

people were bright or broke on the question of telephone service?"

3216 "A. No, sir."

"Q. You didn't make any investigation about that?"

"A. No, sir."

"Q. Well, then, let's assume you are going to build us a plant here, let's assume that you are building a plant where there is already one in existence, or you can assume that this one had been burned down or destroyed one way or the other and the people without telephone service. Then in this community you build this new plant where as is the case here, everybody knows how to use a telephone, they are not afraid of them any more at all. Not everybody that wants a telephone can get one, but they are clamoring for telephone service, they are trying to get 'phones, the Company isn't going out trying to get them to attach the business or to subscribe but they are imploring the company to give them 'phone service. Now, you build a plant like this in that sort of a community. What advertising are you going to have?"

"A. You would have some expense in that even."

"Q. Well, tell us what the educational expenses are now, you were talking about education, how are you going to educate them? To what?"

"A. There would be some people that wouldn't come to your office."

"Q. Wouldn't come?"

3217 "A. No, sir, there would be certain classes of subscribers that wouldn't come. If you were going to reproduce the Houston plant to-day, I would venture an opinion that you would have to solicit a certain number of subscribers."

"Q. Why would you have to do that? They know the value of it, it is established; their 'phones are here now, and they are paying for it very much and they won't give them up to let people that want to use them have them. Now, why would you have to solicit that kind of business?"

"A. Well, I am assuming that Houston is no different from other localities and in other localities these expenses have occurred."

"Q. Occurred when, in the early days?"

"A. In the development of the business."

"Q. Way back in the long ago people were afraid to take hold of them, afraid they would have a kick-back, but we have passed that stage long ago. There is not anybody afraid to pick up a receiver?"

"A. But there are certain people that are still slow about taking telephone service."

3218 "Q. But here you have got a City here with 27 thousand telephone subscribers, we have got I don't know how many more that are trying to get service and if this was discontinued to-day, this service, and then it was afterwards restored, they would still be anxious to have them, now, what sort of campaign would you have to carry on?" I am talking about any material amount. I am not talking about putting an announcement in the paper."

"A. You would have certain expenses if they come to your office."

"Q. Well, we'll get down to that. We would just eliminate that advertising expense?"

"A. No, sir, there would be some advertising."

"Q. What is it?"

"A. I haven't figured it out."

"Q. I am asking you the amount in dollars and cents, I am asking you what the nature of the advertising would be."

"A. And I have attempted to explain it several times, that it would be along educational lines."

"Q. But that was before I explained to you that these people had been educated up to the point where they wanted more telephone service than they can get, so when you get a man through college, you don't send him through college again. He might *could* learn more but you don't send him over that same route. So under these conditions, you have no educational campaign, so far as the people are concerned?"

"A. I should say you would."

"Q. What is it? That's what I want to know."

"A. It would be publicity work, announcements."

"Q. What announcements?"

3219 "A. Announcement of the progress of your work and when the subscribers could expect service and when the plant would be open for service and when the directories would be ready and suggesting that the public arrange for the service so they would get their names in the first directory."

"Q. Now, about selling the service?"

"A. It would cost money to sell the service."

"Q. In what way?"

"A. In the way that you would have to have people at your counters to attend to the public, even if they came to your office."

"Q. All right. I agree with you there. Let's say we want to spend some of this money to get some little idea about it. About how large a book-keeping force would that take?"

"A. I haven't made a study in this case, I have merely used a flat percentage."

"Q. Just used a percentage that you have gotten from some other place?"

"A. That I know from my experience and in the work, is applicable to the Houston plant."

"Q. And yet you can't tell us anything about the cost or any of the items that go to make up this grand total?"

"A. I could work it out, but I haven't worked it out."

"Q. You could work it out, but you are going to adopt the procedure of giving us the fact and then going out and finding out whether it is correct or not?"

3220 "A. That is the percentage that has been allowed in other cases."

"Q. Mr. Topping, is that all you have got to say to us upon this item of one million three hundred and fifty thousand dollars of going value?"

"A. That is, the 20% is a fair and reasonable allowance."

"Q. Although you can't tell us anything about the cost of any of the items? I am not confining you to any one, I am asking you about—to pick out any one of the things that you say go to make up this million three hundred and fifty thousand dollars and tell us what you paid, what you paid for it?"

"A. I have told you practically all the operations that enter into it, but I have not attempted to value, or place a sum for each of the individual operations. That I can do."

"Q. Well, you have told us that it would take at least one year to attach 50% of this business, and now I am asking you again if in making that statement, you were familiar with the proposition that this is a community that is educated up and anxious for telephone service and that they are going to apply for it and are applying for it now to a greater degree than they can be served?"

"A. Now, I have taken into consideration the fact that there would be a certain number of subscribers that would come to your office."

"Q. Is there any reason you can give me why they wouldn't call come, because they have all demonstrated that they want this 3221 service and are accustomed to it and won't relinquish it?"

"A. Even if they did come, there would be come cost."

"Q. I understand. Now, we are getting down to something substantial. That would be getting out your contracts and the cost of getting out your subscribers and putting them on the books?"

"A. Yes, you would have to have a commercial organization."

"Q. Now, can you give us some idea of how much that organization would cost?"

"A. No, sir, I haven't worked it out at all."

"Q. So then, on this one million, three hundred and fifty thousand dollars, we have got nothing to stand on but a lot of generalities."

"A. No, I would say——"

"Q. That is all, Mr. Topping."

Redirect examination.

(Questions by Mr. J. D. Frank:)

"Q. Mr. Topping, Mr. Howard has spoken very lightly of the proposition of going down to the City Hall and securing a franchise in a few minutes from a handsome young man down there who is paid \$200.00 a month for the purpose of dishing out these franchises to public utilities. From your experience in the Telephone business, do you know it to be a fact that sometimes the company has to dicker and barter with these City Councils for 3222 two or three years before they can secure a franchise?"

"A. I know it takes considerable time, sometimes."

It is not such an easy matter as Mr. Howard has painted it to be, I have never run across such a case in my experience. Counsel has also referred to advertising and said that everyone in the City knew that the telephone plant is here. I presume everyone knows that the large department stores like Levy Brothers and the Main Dry

Goods companies are located in Houston also. Yet, those large companies advertise just the same. It is also true that street railway companies where they are the only company operating in a particular town do considerable advertising. It is also true of light companies and railroad companies and such utilities as that. The cost of attaching business is not the only thing that enters into the cost of establishing business, that is only one of the few numerous items. That is a small item of the total expense. If the Houston plant was blotted out entirely and I started in to reproduce it in three years, I would not expect to get back all of the original subscribers that I had at the time the plant was blotted out of existence, not at the beginning of the operation. As a matter of fact I would get back but very few of the subscribers, I would estimate about 50%. People are changing, moving about, and leaving the City and new ones coming in all the time.

3223 I have considered the cost of reproducing this property new. I have also made an investigation for the purpose of determining the per cent condition of the physical property constituting the Houston Telephone Plant at the present time and have prepared an exhibit with reference to that.

Mr. J. D. Frank: This exhibit, which is headed "Reproduction cost new, less depreciation," is offered in evidence as Plaintiff's exhibit No. 34."

(The document was thereupon received in evidence and marked Plaintiff's Exhibit No. 34, and said Plaintiff's Exhibit No. 34 is transmitted herewith in Exhibit file.)

For the purpose of determining the per cent condition of the physical property constituting the Houston Telephone Plant I made a trip over Houston inspecting the property, inspecting the poles and cables, the wireless and various parts of the plant. On this inspection, I selected various portions of the City and in some cases climb the poles to determine the condition of the cables and the condition of the wires and looked around the poles, and probably covered 75% of the outside plant. It took me somewhere around eight or ten days to make this investigation, inspecting the property for the purpose of determining the condition of it. I spent that time in examining the various parts of the plant. I covered about

75% of the poles, in other words, I saw about 75% of the  
3224 poles in Houston, and in going over the pole plant, I had an instrument and would dig around the base of the pole to determine the condition and I would climb poles to inspect the condition of the cable, the messenger strand, and the wires and drops. I visited the buildings and inspected them from the basement by floors. I also inspected parts of all of the plant for the purpose of determining its condition.

This exhibit, in the left hand column is indicated the class of plant, the first column headed "Reproduction cost without overhead," the next column is headed "Reproduction cost including overhead," the next column is headed "Net salvage value in per

cent," the next column "Non-depreciable property," the next column "Depreciable property," and the next column "Per cent condition," and the last column "Reproduction cost less depreciation."

Take for example, the item of apparatus, that is under "Subscribers' Station Equipment." The reproduction cost of the apparatus including overhead is \$362,295.00. The net salvage value in per cent is 10%. That net salvage value does not depreciate. Therefore, I have deducted the non-depreciable property from the reproduction cost and that leaves the depreciable apparatus at \$326,066.00. I have estimated that to be in 95% condition. Taking 95% of the \$326,066.00, gives the reproduction cost new less depreciation, of \$309,763.00 for that item of plant.

I have treated all of the other items of plant in exactly the same manner as that, with the exception that there was no net salvage value. I have not taken that factor into consideration. For example, on poles, there is no salvage, although with the present price of wood, I think there ought to be.

The second page of that exhibit shows the reproduction cost less depreciation of all of the preceding items of the depreciable property is \$5,021,143.00. I then took the non-depreciable property of \$1,387,863.00 and find the total reproduction cost new less depreciation as \$6,409,006.00, to which I added my working capital, cost of establishing business, and obtain the reproduction cost new less depreciation, including working capital and cost of establishing business as \$8,032,319.00.

Cross-examination.

(Questions by Mr. Howard:)

When I determined the per cent condition of this plant, I am after the accrued depreciation in the physical property. I went out and gave the plant a personal inspection, spent eight days looking it over, yes.

3226 "Q. All right, and you found the plant to be what, found what depreciation?"

"A. I found that the depreciable property amounted to——"

"Q. (Interrupting.) No, I mean the per cent, condition. You didn't depreciate the amount, did you?"

"A. No, sir."

"Q. You didn't depreciate anything but what are known ordinarily as depreciables?"

"A. You mean, in per cent. Condition?"

"Q. Yes, the per cent condition."

"A. I found the depreciable property in 92.57 condition."

"Q. Or a depreciation of 7.43?"

"A. Of the depreciable property."

"Q. All right, now what does that include?"

"A. That includes the accrued depreciation."

"Q. In what way, how do you arrive at it, includes rust and wear, does it?"



"A. Yes, sir."

"Q. What else does it include?"

"A. It includes rust, rot and decay."

"Q. What else?"

"A. That had accrued in the property."

"Q. What else?"

"A. That's all that includes."

"Q. That's all that includes?"

"A. Yes, sir."

3227 Redirect examination.

(Questions by Mr. J. D. Frank:)

I find as the total cost new of the physical property \$6,817,753.00. That is, the total reproduction cost new, less depreciation \$6,409,006.00.

I climbed a good many of the poles to make a physical inspection of the wire in the plant.

I am familiar with the original cost of this plant as shown by the books and have taken that into consideration in arriving at the valuation which I have placed on this plant. I am also familiar with the gross additions which have been made to this plant for the last five or ten years. I have just made a rough approximate as to the amount of money which would be required to make extensions or additions to the plant within the next ten years. Assuming that Houston would continue to grow and develop as it has in the past, I would estimate that it would require about Three million dollars additional money. That is, in the way of extensions or additions to the plant within the next ten years and enlargements to meet the growth.

My opinion is that there is need for such a plant as this in Houston and I think that the Plant is economically justified. In my opinion there will be an increase in the demand for telephone service in this particular locality. The demand for service

3228 will increase. I know that the demand for service has increased in the past with the growth of the City. This plant is well constructed and it is favorably located, and the buildings are located in the proper places in the City. It has been, and is, well engineered. This property is in good condition, in fact, I have inspected a great many plants, and this property is as good a property and in as good condition as any property that I ever inspected. I have made a study, in a general sort of way, with reference to the history of this community. I obtained a book issued by the City in 1917 and familiarized myself to a more or less degree with the City. That book is entitled "Illustrated City Book of Houston, 1917." I don't know whether that was gotten out by the City or by some commercial organization. I just know that the covers indicate City Book. It contains reports from the Mayor and various officers of the City and also contains an analysis of the City by the Chamber of Commerce. I learned with reference to the

growth of the City that in 1900 the book indicated that Houston had a population of something like 44,633 people, that in 1917, the population was approximately 150,000 people, that is an increase of 336% or an average yearly increase of 18%. The manufacturing capital in Houston increased from 1909 to 1914, 53.3%. At this period, there were 365 factories, employing something like 10,000 people with a combined pay roll of approximately \$10,000,-  
3229 000.00. That would indicate then that the business in this

City is fairly good. I found that Houston was headquarters for several of the largest oil industries in the United States with a combined capital, aggregating over \$100,000,000.00. The wholesale trade of the City amounted to approximately \$125,000,000.00 and the retail trade at \$57,000,000.00. Houston also claims the distinction of being the financial center of the State of Texas. I would concede it personally. From my investigation I would say that the City has enjoyed a gradual, steady growth. From what I have learned as to the past history of this community I would expect it to grow equally as rapid, if not more so. The bank deposits show a constant increase. It has access to the Gulf, it is a large lumber center, and something like 15 or 17 railroads center at Houston, and it is only natural to assume that Houston will have and enjoy a continual growth. I am familiar in a general way with the financial history of this telephone company here whose property I have been valuing. I know what conditions have been made to the plant in the last eight or ten years and what money they have had to put out for that purpose. I have seen Mr. Scott's exhibit with reference to the outstanding stock and bonds of the company. In my opinion you would have to take into consideration the value of the stocks and bonds outstanding in arriving at the value of the  
3230 property here. I have given due consideration to all of these matters in arriving at what in my opinion constitutes the value of this plant. Basing my opinion on these matters, that is, the original cost, and the cost of reproducing the property, less depreciation, the history of the community and the number of subscribers that we have, the additions that have had to be made to the plant in the past, what money will probably have to be put into the plant in the future, what in my opinion the value of the plant constituting the Houston Telephone plant is in round figures eight million dollars.

#### Cross-examination.

(Questions by Mr. Howard:)

"Q. Mr. Topping, are you an engineer?"

"A. Yes, sir."

"Q. A technical engineer?"

"A. No, sir, my training has all been practical."

"Q. You spoke a while ago about this plant being well engineered, and having been well-engineered in the past, what do you mean, that the lines and the conduits have been laid out well with reference to the City as it grew from time to time?"

"A. Yes, sir, and that it has been placed in the most advantageous position."

3231 "Q. That has not been affected at all by the development of the City in different portions? What I mean is this, Mr. Topping: If this engineering was done and well done at the time and served the community but later on a big addition was opened up some distance removed from the center, would that or not tend in any way to affect the desirability of the location of these lines?"

"A. It might have some effect on it. In engineering a plant, an engineer foresees into the future as far as he possibly can."

"Q. But he necessarily can't foresee as well as he can backsee, does he?"

"A. No, the fore-sight is not as good as the hind-sight."

"Q. If you were to build this fine plant you have been telling us about here in this City now, would you rely upon your own judgment as to the matter of where you would run your conduits and your lines and things of that kind?"

"A. I would, partially, I would have to have some assistance on it. One man couldn't engineer this entire property. It is too big a job."

"Q. Well, is it a job that you would undertake to oversee and engineer? There must be a supervising engineer in any big construction like that. Would you assume that rôle?"

"A. I would assume a general supervision."

"Q. You mean that you would employ you a first-class engineer and consult with him at times?"

3232 "A. No, sir, I mean this, that if I were reproducing this property, looking after all of it in detail, I couldn't handle the entire detail."

"Q. Well, my point is this, Mr. Topping. Can a man who is, conceding to him a very high degree of intelligence and efficiency, who has secured his knowledge of the business from working in it, in the different parts of it, and growing up with it, get that knowledge that will enable him to lay out construction work in the same way or to the same degree that a technically trained engineer could get?"

"A. I would say that he is better equipped."

"Q. You would say that he is better equipped?"

"A. Yes, sir, because he has the practical experience. A technical man may be trained but then before he could go and lay out that plant, he would have to have the practical experience."

"Q. Did you ever lay out any plants of any great magnitude?"

"A. Not as large as this one. I have been associated with work in the engineering department."

"Q. Are there any improvements being made in the telegraphic or in the telephone service, and general improvements?"

"A. Do you mean as to any particular class of plant?"

"Q. Yes, first are there being any made, and if there are, in what respect?"

"A. Well, they are constantly making improvements."

3233 "Q. Of any great magnitude. What do they affect mostly, anything that affects your central office equipment? A switch-board that was installed seven or eight years ago, is

that susceptible or likely to be improved any in the near future or supplanted?"

"A. Well, they are using and in some of the cases where it is necessary to replace existing office equipment, installing automatic equipment."

"Q. But the manual equipment and the manual switch-boards, as these are, there are no improvements immediately to be consummated that will improve the character very much?"

"A. Well, not that I know of, nothing except the automatic equipment."

"Q. The automatic equipment. The automatic equipment is a thing that is on us right now, isn't it?"

"A. Some companies are using it where they are replacing worn out central office equipment."

"Q. It is recognized in the telephone world as being a great labor-saving equipment, is it not?"

"A. Yes, sir."

"Q. It will do away to a great extent with the operators?"

"A. Yes, sir."

"Q. Does it have any other advantages in a labor-saving way?"

"A. No, I can't say that it does. It doesn't eliminate all of the help in the central office."

"Q. Oh, it would not eliminate all the operators, I know."

"A. But it requires more highly trained and experienced  
3234 men to take care of the equipment."

"Q. But it is well recognized as a very great and economical labor-saving method over and above the manual method?"

"A. It does save some labor."

"Q. A very considerable amount too, doesn't it?"

"A. All the operating expenses, yes, sir."

"Q. Say probably 75 or 80 per cent of that wouldn't it?"

"A. Well, I haven't give that any study. I don't know what part of it, but it saves——"

"Q. (Interrupting.) Saves a great part?"

"A. It saves considerable of the operators' expense."

"Q. Would the installation of automatic switch-boards and the automatic telephone system necessitate any general change in the plant?"

"A. It would necessitate changing the equipment at the subscribers' stations and the central offices."

"Q. Remodelling the building?"

"A. It is possible that some of the buildings would have to be remodelled."

"Q. You don't take those things into consideration in stating your per cent condition of the plant?"

"No, sir, not in determining per cent condition."

"Q. Obsolescence should be taken into consideration in determining accrued depreciation, should it not?"

"No, sir, not unless it has accrued. If it has accrued, than I would take it in."

"Q. But if it is imminent?"

3235 Mr. D. A. Frank: There is no testimony here that it is imminent.

Mr. Howard: It may be.

Mr. D. A. Frank: Well, it won't be credible if it is.

"Q. I asked him if the change was imminent, whether or not it wouldn't be taken into consideration in determining accrued depreciation, assuming that the obsolescence and inadequacy is imminent, it should be taken into consideration, should it not?"

"A. I would say that unless it had occurred at the time of the inspection, I would not take it into consideration, unless it was apparent——"

"Q. (Interrupting.) Now, do you mean to say as a valuation engineer that if you had a plant here, that your lines and conduits were entirely out of place, from a good engineering standpoint, although they had not been removed, and that your central office equipment was located in the wrong place, although it had not been removed, that you wouldn't take those things into consideration in determining——"

Mr. D. A. Frank (interposing): Per cent. condition of the property?"

Mr. Howard: No, I didn't ask him about that.

3236 Mr. D. A. Frank: That is what you were asking him about.

Mr. Howard: I was talking to him about accrued depreciation.

Mr. D. A. Frank: That is where you get per cent condition.

Mr. Howard: Per cent condition and accrued depreciation, I don't thing for a minute, you would contend for a minute is the same thing."

"A. I am talking about per cent condition for the plant now."

"Q. But you termed it though, "accrued depreciation," when I asked you about it a while ago."

"A. Upon my inspection——"

"Q. (Interrupting.) You didn't mean, when you were talking about per cent condition you didn't mean accrued depreciation?"

"A. I mean, that this much value had been wasted or rotted.

"Q. Yes, you told me that the only things you considered was waste, wear and decay?"

"A. Yes, sir, I considered only the factors that had really happened at the time of my inspection."

"Q. And would you say, Mr. Topping, now, as a professional valuation engineer that if you had a plant that was in  
3237 & 3238 92% condition, that is, all its switchboards and its poles and its wires and its conduits and all those things compared with their original condition were in 92% but as a matter of fact, the conduits were misplaced, they were not where they best served the purpose, not in the most economical place, and the Central Office Equipment was not located in its proper place, or that anything was about to happen that would require following the law, proper law of economics, to replace any part of the plant, that this plant that you

determined the per cent condition of, would be as valuable as one where these engineering defects have been corrected."

"A. No, I wouldn't think it would be as valuable."

"Q. You wouldn't think it would be as valuable?"

"A. No, sir.

Direct examination.

(Questions by Mr. J. D. Frank:)

"Q. Mr. Topping, would the fact that some of the conduits were misplaced, or bad judgment had been shown with reference to the location of some of the buildings, have anything to do with the per cent. condition of the property?"

"A. It wouldn't have anything to do with the per cent condition of the property."

3239 In the District Court of the United States for the Southern District of Texas, at Houston.

In Equity.

No. 108.

THE SOUTHWESTERN BELL TELEPHONE COMPANY, Plaintiff,

vs.

CITY OF HOUSTON et al., Defendant.

*Præcipe.*

To the clerk of said court:

The clerk will please incorporate in the transcript of the record on appeal the following portions of the record which the plaintiff, the City of Houston, submits in addition to the rest of the record herein, for the consideration of the United States Supreme Court, in connection with the appeal of The Southwestern Bell Telephone Company:

The portions of the testimony of the witnesses, Lamar Lyndon and C. A. Gates, filed in this cause on the first day of February, A. D. 1921.

W. J. HOWARD,

*Solicitor for Defendant, City of Houston et al.*

Service hereon accepted on this the first day of February, A. D. 1921.

D. A. FRANK,  
JOSEPH D. FRANK,  
WM. H. DULS,

*Solicitors for Plaintiff,  
The Southwestern Bell Telephone Company.*



3240 LAMAR LYNDON, a witness for the defendant, testified as follows:

The inventory furnished is, I think, satisfactory to us. It is susceptible of absolutely accurate determination, and when I have gotten that, I have gotten to a well defined border and have crossed the border line and gone into the land of uncertainty. One can set down most any character of figures, and vary them any way he wants to take them, either by taking a five years' average, that is, taking five years and averaging them up, or he can take 1919 prices and apply them, or he can go back and take the trend price and apply those from the start. That is a matter of detail, and one could fix that by the use of a half dozen different methods.

"Q. Well, then, eliminating the different prices owing to the different times, different averages, and depending entirely on what period you take, would you meet with any other difficulty in getting prices for what you call a phantom telephone plant?"

"A. Simply this, and it is applicable to any character of construction work,—that if a manufacturer or contractor is asked for a price, a quotation, on furnishing any apparatus or doing any construction work which he knows he is not going to get the contract for, his figures will be mostly cursory and not trimmed  
3241 down to a fine business point. It is not natural, nor is it human, for a man to make a complete, clear and detailed estimate of a piece of construction work that he is not going to get the job to do and has no hope of getting it, and so all that could be obtained would be something that would be indicative of a maximum cost,—it would be indicative of a maximum cost."

"Q. Well, would the estimate or quotation which you would get, in the nature of things, be higher or lower than the actual cost in case where you had real construction work?"

"A. It would unquestionably, in every instance, be higher; as I say, it would be indicative of the maximum cost."

"Q. Well, now, that's another thing that would render this second step in the so-called reproduction method at this time confusing and misleading, and cause you to lose your way in trying to get anywhere after having departed from the inventory, and leave you groping. No, Mr. Lyndon, in trying to bring some light here upon this question, you should know about the effect of prices generally, and whether they have been abnormal and are chaotic, and conditions are worldwide and everything is unsettled; and aside from the fact that you are not completing—not doing any construction work, but merely bothering the manufacturer who is making up estimates for you— You find, through a system of years, starting modestly,  
3242 but building up one concern, has gradually acquired the telephone industries until in the United States today it has acquired four-fifths of them, and the concern that owns this four-fifths of these operating telephone exchanges or plants also owns a gigantic supplier,—the Western Electric Company,—and then it appears that along side of this gigantic supplier there are one

or two pigmy competitors,—I think you know them,—the Kellogg Company, I think, is the most important; you find then that the only competition that this supplier that's owned by the same owner that operates the exchanges, consists of these one or two little concerns; I mean little comparatively speaking; that this supplier will put these goods in without any arm's length contract, no competition, no freedom of action, no freedom of trading, no suggestions upon the one part that you are too high, and I could do a good deal better, would you consider that would embarrass or lend any uncertainty to a proper valuation upon a reproduction theory?"

"A. Well, it would simply fix the reproduction valuation at a figure that would be produced by the charges of costs set up by one of the members of the same family. It would be difficult, if not impossible, to make a reproduction valuation of a Bell Telephone system without taking into consideration the prices charged by the Western Electric Company."

"Q. All right, Mr. Lyndon, having looked over the field and considered all the company's affairs, with a view of trying to  
3243 determine and to assist those charged with the duty of determining what would be a fair rate of return and fair earning of this utility, you made an investigation and report and certain computations, I believe; did you not?"

"A. Yes, sir."

"Q. Mr. Lyndon, I believe in trying to arrive at this, you connected with your work of 1914, when there was no dispute between the city and the telephone company at that time in regard to a valuation that was made?"

"A. There wasn't any particular dispute. We found certain figures and the Company submitted others, and we were not a great distance apart. Of course, it is not normal for a public utility to accept a real valuation, and we always expect some objections and some increases, but the ones they were able to suggest were not very great."

Mr. Howard: Mr. Lyndon has resorted to the method of preparing some exhibits, and we are going to pass them around. Will you mark that as Lyndon Exhibit No. 1?

(The statement was thereupon received in evidence, marked: "Lyndon's Exhibit No. 1," and is filed herewith.)

(By Mr. Howard:)

"Q. Mr. Lyndon, this exhibit I believe you have marked:  
"Valuation physical plant of the Houston Exchange, Southwestern  
Telegraph and Telephone Company. Basis of reproduction  
3244 cost in 1914, plus the actual costs of additions 1914 to 1920."

Mr. Lyndon, I will be glad if you will take that exhibit up briefly and explain it,—just how you have arrived at it and how you get this."

"A. I would expect to find everything here, and in the quantity and classifications as set forth in the inventory."

"Q. But not as to the long distance and toll equipment, you would not——

"A. (Interrupting.) I would not know anything about this unless it is set forth in here. This is toll equipment and this is not, and I should assume that is a correct statement."

"Q. It is a fact that all equipment here is used more or less in handling long distance tolls, as it is in every exchange?"

"A. Oh, yes; the local equipment is used for long distance service; they constitute the terminals."

"Q. Now, Mr. Lyndon, you have a summary, I believe, on the top of the first page of your Exhibit No. 1, have you not?"

"A. Yes, sir."

\* \* \* \* \*

"Q. Now, Mr. Lyndon, referring to your Exhibit No. 1 here, I see you have set up here "The reproduction Cost in 1914." Mr. Lyndon, first I will ask you how you arrived at that,—at any reproduction cost at that time?"

"A. Took an inventory."

3245 "Q. Who took an inventory?"

"A. The Southwestern Telegraph and Telephone Company took the inventory and we checked the inventory and found it correct, except in occasional items,—found a little deviation, I should say, within one-twentieth of one per cent. It was negligible. Then we took the items and got the prices and added to those prices what we regarded as a reasonable overhead."

Mr. D. A. Frank: When was that?

"A. In 1914; and in that way we found——

Mr. D. A. Frank (interrupting): Now, this refers only to the physical property?"

(By Mr. Howard:)

"Q. I understand——

"A. (Interrupting.) We found that the cost of reproduction on that basis was \$2,080,935.00."

"Q. Now, that's in the column headed: "Lyndon and Elrod?"

"A. Yes, sir."

"Q. Now, I notice in the other column to the right you have: "S. W. T. & T. Co." I suppose that's the Southwestern Telegraph and Telephone Company?"

"A. Yes, sir."

"Q. What do these two headings mean?" What is their significance?"

3246 "A. It means—that, as a matter of fact, those two headings refer first to the Lyndon and Elrod reproduction value in 1914, and to the Southwestern Telegraph and Telephone Company's reproduction value in 1914, for the physical property. Now, we found \$2,080,935.00. Then the Southwestern Telegraph and Telephone Company's figure for these same items, and inclusive of

the same overheads, that is, the same classification of overheads—not the same amount of overheads, was \$2,326,940,000.”

“Q. Now, Mr. Lyndon, as I understand it, while you used the same inventory, you checked it and made it your inventory, and there was some little difference, and you call one the Lyndon & Elrod——”

“A. (Interrupting.) But we used the same inventory in both cases.”

“Q. But in some little cases it didn’t correspond?”

“A. It was so far negligible we simply adopted the Southwestern Telegraph and Telephone Company’s inventory.”

“Q. Both you and the Company at that time seem to have made an appraisal of the property as shown by that inventory, did you not?”

“A. We did.”

“Q. Mr. Lyndon, where did the Company get its figures for the appraisal; do you know?”

“A. No; they furnished us the figures and we put them in the report to show the comparative amounts of the two appraisals.”

3247 “Q. Now, did you, by this method of inviting estimates of costs from the suppliers, obtain certain figures yourself at that time?”

“A. Yes, sir.”

“Q. And to whom did you apply; do you remember?”

“A. Various suppliers. The Kellogg people gave us the price on the switchboard; I think that the Southwestern Company’s prices on the sub. sets were taken; on the poles we got prices from several people; the cables and wire, I think the National Conduit & Cable Company, and the Standard Underground Cable Company gave us those prices; I am not sure about that. It is seven years ago, but we went to the suppliers, to the well recognized standard manufacturers of the materials.”

“Q. How did the prices you received compare with the prices used by the Company?”

“A. Well, the Company’s estimate was about 10% higher than ours.”

“Q. On the appraisal?”

“A. On the appraisal; \$2,080,000 to \$2,386,000.”

“Q. And in this summary you show both figures?”

“A. Yes, for comparison; and that’s what those two sets of figures mean under the title of “Reproduction Values—1914.”

“Q. Under what circumstances did the Southwestern Telegraph and Telephone Company furnish you this inventory; do you recall?”

“A. We were making a report on the property to determine whether their rates were too high or not, and they gave us the data.

3248 “Q. Gave you what purported to be a complete inventory of their property?”

“A. Yes, and we checked it.”

“Q. Do you recall whether you had any discussion with any of the

officials of the Company at the time, after you completed the appraisal, as to the values?"

"A. Nothing definite, except that there was exception taken to only a few of our prices. They did not agree with us on the pole prices; I remember that very specifically. But we had put the plant high enough, at least to be sure of our ground there, and there were some other small differences that finally aggregated this difference of about \$250,000."

"Q. Then you have here then as a starting point that you have adopted in this report a double standard; you have one shown by your appraisal and the one shown by the Company's appraisal upon the same inventory?"

"A. Yes, it is the identical inventory."

"Q. Now, in order to bring, or arrive at, the present values, just confining ourselves, now, to what the physical properties are, as I understand it, what else does this exhibit show, Mr. Lyndon?"

"A. It shows their additions and the actual cost from 1914 to 1920. Now, by their actual cost I do not mean exactly, as set forth by the books. There are two modifications from the book charges. 3249 One is, that the aerial wires are shown on the books to have a certain value, while the Telephone Company's own inventory and own statement show that that value does not exist. We substituted for the Company's books on that item——"

(By Mr. D. A. Frank, interrupting:)

"Q. You are talking about 1914 now, aren't you?"

"A. Talking about 1914."

(By Mr. Howard:)

"Q. What item did you mention there?"

"A. The aerial wire. We substituted for the Company's books or book record the Company's own later record of existing wires and other costs. That is, we took, of two Company records, we took the one which appeared to be the rational one."

"Q. Why do you say the most rational?"

"A. Because the Company stated that all the wire that they had or had in sight, or could account for, or that was shown by the inventory, was so much and it cost this much money; and I regarded the existing property as the rational one, and not some other item that does not represent existing property. That is one modification from the Company's books or cost records. The other modification of the Company's books or cost records is that covering the circuits and subsequent valuation of the Houston Home Telephone Company. The Company paid some \$700,720.00, not exactly, but approximately, and

I will use that figure as an approximate figure, subject to be 3250 made exact later. The Company paid about \$700,000.00 more for the Houston Home Telephone Company's property than the cost or the value of the property,—physical cost——"

"Q. (Interrupting.) What do you mean,—how do you arrive at that?"

"A. By an inventory and valuation. This excess of Seven Hundred and Twenty odd thousand dollars was then written into the

Company's costs and valuations as, I think, cost of establishing business, but it was written into the Company's record——"

"Q. (Interrupting.) Did you want the summary?"

"A. Yes, about the details of that transaction, the Houston Home Telephone. (Paper handed to witness). It states here it is written up as an intangible value. Well, the City, of course, denied that the Company could make purchases of existing property already in the service of the public in the City, at a figure greatly in excess of its value, and then adding up that value, that excess amount, as a proper sum on which dividends should be paid. Of course, if that were not true, why mutual companies could just buy from each other and keep going right up till there was no limit. Therefore we took only the value of the Houston Home Company's property which remained in the service of the people of Houston as the addition which should be allowed to cover that purchase. Those are the two modifications that were made from the Company's 3251 books in order to reach this sum of addition, 1914 to 1920.

Further actual purchase of materials, further expenditures for labor or any other cause or reason, has been put down exactly as the Company's books show these costs to have been incurred."

(By Mr. D. A. Frank:)

"Q. You mean our plant?"

"A. Oh, yes; our plant, remember,—physical plant only."

"Q. Not including either working capital or supplies?"

"A. No, sir."

(By Mr. Howard:)

"Q. Physical plant, eliminating working capital and supplies? Mr. Lyndon, was there some method, or is there any method by which—did you determine the number of stations that had been added since 1914 up to the present time?"

"A. We did not determine them. We took the Company's statement."

"Q. Well, you determined them only in that way?"

"A. Yes, sir."

"Q. You took the Company's——"

"A. (Interrupting.) Took the Company's figures."

"Q. You familiarized yourself with the properties in that manner?"

"A. Yes, sir."

"Q. Did you get any comparison or arrive at the cost or increase per station?"

"A. Yes, sir."

"Q. Did you determine what that amount was?"

3252 "A. Yes, the increase in the actual investment by the Company, with the modifications which I have mentioned applied to the increase in the number of telephone stations, amounted to around \$310.00 per station."

"Q. Now, that is excluding this something like \$700,000.00 that they carry on their books as intangibles?"



"A. Yes, excluding that."

"Q. Even excluding that?"

"A. Yes, sir."

"But had that been included, that would have made the addition amount to something like \$2,000,000.00, wouldn't it?"

"A. Oh, yes; the additions would be over \$2,000,000.00 if that was included."

"Q. What would that be, approximately; can you figure it quickly? About how much that would be a station?"

"A. Well, the increase per station of forty-six hundred stations——"

"Q. (Interrupting.) It would add about fifty per cent?"

"A. About fifty per cent to the cost; it would run around \$450.00 per station as the cost of the increase."

"Q. Is that regarded as a rather normal or natural and anticipated, looked for, cost of an extension per station?"

"A. It is very extraordinary."

"Q. Very extraordinary. Well, taking the other figure first, of \$310.00; is that ordinary or extraordinary?"

"A. That is extraordinary. That is shown in this manner.

3253 It will — clear that the cost of additions per stations is less than the total cost per station. There is no increase in the building, real estate, nor the switchboard equipment, assuming that the boards are of a certain maximum size; there is no increase in any of those items, only the wires, the instruments and some of the auxiliary apparatus, so that the cost per station for extensions must always be less than the cost per station, the total cost per station, taking in all of the stations and all the costs. Of course, that has certain limitations. It does not mean that if the cost per station calls for another telephone station and trunk line that that is true; but as long as the conditions remain the same, in that the number of exchanges is not increased and the size of the building does not have to be increased, the cost per station for increases is less than the cost per station for all the stations divided into the total cost. I think that is clear and obvious to a layman or to anybody. The statement of the American Telephone and Telegraph Company for 1918 shows that, taking over the whole United States and inclusive of long distance lines, the average total cost per station was \$153.00. I believe the report, the annual report of the American Telephone and Telegraph Company, to be correct. I have no means of checking it. I recite that it was received from that source. Here in Houston, the expenditures from 1914 to 1920, for extensions only, has been double, just double this amount which the American Telephone and Telegraph Company sets up as the total cost per station taken throughout the United States. For this reason I say that \$310.00 is excessive."

3254 "Q. And in allowing \$1,400,000.00 for these additions, that, to say the least, appears to be liberal?"

"A. Yes, sir."

"Q. A very liberal expenditure, considering the number of stations attached?"

"A. More than liberal; but as the Company's books show that amount expended——"

"Q. (Interrupting.) The amount has been paid?"

"A. It has been paid. We assume it to have been paid and we accept it,—we don't question it; but we do call attention to the fact that it is a great deal of money for a station."

"Q. The causes of that, and the reasons for it, while they may be proper and, when pointed out, may fully explain it, as I get it, it strikes a man who investigates this question as rather startling that that cost per station should appear?"

"A. It does."

"Q. Then, if it should appear that those stations cost \$450.00, why, of course, that would be not only extraordinary, but——"

"A. (Interrupting.) It would require more explanation still."

3255 "Q. It would require much more, but, of course, that part of it based on that cost and allowing it, you can account for that \$700,000.00, and, to your way of thinking, it should be rejected?"

"A. That was a financial trade; that had nothing to do with supplying the City of Houston with telephone service; on the contrary, to remove a competitor."

"Q. And to set that up and allow an earning on it would be to superimpose on the community a charge of about \$150.00 per station, where it appears that the extraordinary charge for some reason or other, possibly a proper one and economical one and a legitimate one, has been added, would be an unreasonable burden, in your mind, upon the public?"

"A. It not only would, but it seems to me it would set a most dangerous precedent, because there is no limit to what such sales could be carried, if the profit one side to another can be admitted, and if they can be admitted once, why not ten times?"

"Q. Then, as I understand it, arriving at these physical properties, you take that starting point in 1914, the two horns of it and build on to both of them; you have got a kind of two-legged proposition, and you add \$1,400,000.00 because you find that as amount actually expended upon the Company's books; then checking that against the number of stations that have been added since the starting point, in 1914, you find that it, so far as being fair to the Company is concerned, that it checks; and in addition allows  
3256 what you call an extraordinary amount for stations for what the community has received?"

"A. Apparently so."

"Q. Now, Mr. Lyndon, I believe in 1914, in their appraisal as distinguished from their inventory, which we agree with, the Company has added certain other amounts, has it not, to the figure that you give here of \$2,326,940.00?"

"A. Yes, sir."

"Q. Upon what was that amount, and what was the basis of the set-up?"

"A. The claim was that they had extra charges, had spent costs over and above those which was included in the unit prices, and

that these costs included such things as taxes during construction, insurance during construction, and other items of like character."

"Q. Ordinarily called loading charges?"

"A. Yes, but there are such loading charges that are perfectly allowable, that are really actual part of the costs, and then there are others that are fictitious, but these charges, which they claim are inseparable from the methods of the Bell Company, amounted to \$348,271.00 more than the \$2,326,940.00, which was the reproduction value coming from applying loaded unit charges to the items of the inventory."

"Q. But those loaded unit charges had appeared in the cost prices set up on the books, did they not?"

3257 "A. Well, that is, these are reproduction values."

"Q. Oh, yes."

"A. These are outside——"

"Q. (Interrupting.) Yes, upon the reproduction of 1914?"

"A. Yes; the books were not consulted on these. These were costs of reproduction, so that this is an additional amount that are added overhead charges; they are not all the overhead charges; most of the overhead charges, and all that were considered essential were included in the unit costs, but these are additional overhead charges which the Southwestern Telegraph and Telephone Company claims that they were subjected to, amounting to \$345,271.00, or about nearly eleven per cent of the whole reproduction value under the——"

"Q. (Interrupting.) Now, let me see if I understand you, Mr. Lyndon. You took this inventory of the property and applied the unit costs and material prices, and you got a total in 1914 of \$2,080,955.00?"

"A. Thirty-five."

"Q. Thirty-five dollars. Well, now, wouldn't there be such loading charges,—wouldn't there be a mere addition of the sum set opposite,—don't this figure represent the mere totaling of the appraisal set opposite the different items in the inventory?"

"A. Yes, that reproduction value means the Lyndon and Elrod value; means unit prices plus all the loading that was usual  
3258 in engineering and would be considered rational."

"Q. Oh, yes, you added those in your prices when you applied them to your inventory?"

"A. Naturally."

"Q. For instance, if you had a pole there of a certain class and you put down the pole not f. o. b. Houston or the factory, but the pole as set up in the plant?"

"A. Yes, sir."

"Q. Added the cost of digging the hole and the cost of hauling the pole out and putting it up?"

"A. Engineering and supervision."

"Q. Engineering and supervision, and everything of that kind; you applied it as you went along to each item of the inventory?"

"A. In most cases. In some cases we merely made a lump percentage at the end."

"Q. And included it in the appraisal of this figure?—\$2,080,935.00?"

"A. Yes, sir."

"Q. So then, when you get through with the appraisal you have a reconstructed plant ready to operate?"

"A. Yes, sir,—physical plant."

\* \* \* \* \*

3259 "Q. Mr. Lyndon, next can you give us the amount that you arrive at by adopting the second of these methods?—that is, your reproduction value as of 1914, applying the cost that you obtain to the inventory that you checked?"

"A. In 1914 we found the reproduction value of the then existing physical plant to be \$2,080,935.00; the additions from 1914 to 1920, according to the Company's books, with the exception of the two modifications already cited, have been \$1,427,633, so that the present value, on the basis of reproduction in 1914 and additions at the high price levels from 1915 to 1919, would be \$3,508,568.00."

"Q. The total amount of the physical plant, value of the physical properties in the plant as distinguished from some other properties?"

"A. Yes, sir."

"Q. Is how much?"

"A. \$3,508,568.00."

"Q. \$3,508,568.00?"

"A. Yes, sir."

"Q. That includes the property of the Home Telephone Company that was used in this plant?"

"A. Yes; that still exists here in Houston and is attached——"

"Q. (Interrupting.) And does not include some seven hundred odd thousand dollars that is carried by the Company now in the way of an intangible?"

3260 "A. It does not."

"Q. But it does include all the property of the Home Telephone Company—physical property, retained in this plant; although it might, and does, you say, to a certain degree duplicate property then owned and used by the old Company, or the Southwestern Company?"

"A. Yes, sir."

"Q. You have made no deduction on account of the fact that that is probably a duplication, and not necessary in the proper conduct of the business?"

"A. None; and to do so would require a survey of the two systems, to say exactly what amount and to what degree these duplications might occur and what prospect there might be for the use in the future of any duplications,—and it would be somewhat speculative; and though it has simply been included in these set-ups at the full cost price as of the original cost."

"Q. Would that, in the matter, in trying to judtly arrive at the investment of this utility in the service of this community, be in favor of or against the amount of the investment?"

"A. It is obviously in favor of the investor. Wherever a doubt

arises it usually is fair to resolve it in favor of the investor; that is, doubts of this kind, and I believe it is customarily done; certainly, I always do it."

"Q. And you think it is the fair thing to do?"

3261 "A. Yes, sir."

"Q. Now, as it is done here, where a company is serving the public and they have lines and conduits that reasonably and properly serve the territory, and another company has lines paralleling them that they don't particularly need, and they buy that property, although it is not necessary, and use it in the conduct of the business, why should they be allowed for that?"

"A. Well, if the amount of duplication is very great and a survey is made of the amount of that duplication, and it is well established, and the prospect for the growth of traffic does not indicate that it will never be useful, why, an approximation can be made of the value of the property which is not and never can be useful to the public, and that, of course, should be deducted."

"Q. Suppose the use is remote?"

"A. It then is no longer a question of doubt. It then becomes a substantial certainty."

"Q. But why should a utility be permitted to acquire property not needed in the industry or in the operation of the business, and earn a return on that investment pending the time it does become useful? I am not speaking now of where there is a reasonable apprehension of growth, when it is originally constructing its plant; but why should it be permitted to take over another plant and let those lines lie idle until some time in the future when it may become ad-  
3262 visible to use it?"

"A. It should not. But if the use is remote and the duplication is established——"

"Q. (Interrupting.) But whether useful or whether it will ever be useful, or remotely useful, it has been allowed to them in this set-up?"

"A. It's all in these computations."

"Q. Now, Mr. Lyndon, taking up the third method of valuing this property, which involves the reproduction by the Company, itself, in 1914, and with the overheads and accessories claimed by it, together with the actual additions from 1914 down to the end of 1919?"

"A. The Company's own reproduction value in 1914, including a number of overheads and accessory charges, like warehouse charges and a number of others which we regarded as hypothetical and that they were not entitled to being converted into real money, was \$2,672,211.00. It was \$592,000.00 in excess of the reproduction value which we figured for the same year,—approximately 20% more."

"Q. Well, how much is this figure that they arrive at, or will arrive at, allowing them all that they claim on the physical property used in the plant itself?"

"A. And including all these overheads?"

"Q. Including all the overheads which it claims."

"A. With the additions from 1914 to 1920, the total would become \$4,099,244.00."

\* \* \* \* \*

Mr. Howard: I will next introduce this paper as Lyndon's Exhibit No. 4—"Value of Working Capital as of January 1, 1920."

(The Exhibit was thereupon received in evidence, marked: "Lyndon Exhibit No. 4; witness, Lamar Lyndon," and is filed herewith.)

(By Mr. Howard:)

"Q. Mr. Lyndon, what is the next item that you add to the property value or capital account of this Company used in the service of this Houston exchange?"

"A. Working capital, by which is — an amount to represent a sufficient sum in cash, kept on hand by the Company to properly conduct the business."

"Q. How much do you add for that purpose?"

"A. I have computed the working capital to be \$37,923.00 in this manner; that the amount of cash required should not be in excess of the expenditures for forty-five days. The total operating expenses for the year 1919 were \$632,000.00 for the whole year, and forty-five days is approximately 6% of a year. Wait a minute,—there is another element in there; that the bills rendered by the Company are in advance of service, and the cash needed should not exceed one-half to two-thirds of the expense for one month, due to the fact that a large proportion of the income for the month is collected in advance; and taking twenty days as the total amount for which the Company should have working capital over and above that which comes in from collections in advance and referring it to the \$632,000.00 for one year, the amount the Company should have on hand is \$37,923.00, and that is the method by which that sum of money is determined, which looks rational. Now, however, that is not used, but a round sum of \$60,000.00 which, in conjunction with the \$40,000.00 for stores and supplies, makes a round addition of \$100,000.00 to the Company's physical property."

"Q. Well, Mr. Lyndon, that in a spirit of liberality?"

"A. In a spirit of liberality, sure."

"Q. Mr. Lyndon, the proof,—I believe the proof in this case shows that there is no, what you call as in the street railway case or a traction company, no advance payment upon the month's service. The most that happens is that the bills are rendered on the first of the month and payment is not *thought*, I believe, until the tenth; in any event, there is no default until the tenth. I believe the proof is that only 40% of the bills are paid before the middle of the month; it might not be as much as 40%—"

Mr. J. D. Frank: They are not cut off until about the fifth of the succeeding month.



(By Mr. Howard:)

"Q. Mr. Lyndon, a few of those facts having developed, could you revise this working capital account so as to eliminate any idea of advance payments and give them what you consider a fair working capital?"

"A. Easily. If, on the assumption that I made, which was that the bills would be paid on or about the tenth, substantially most of them, that would leave twenty days that the Company could operate with money collected in advance; add to that another twenty days and a specific sum of money to cover that, means forty days that I had in mind. No, if they had forty days of operating expenses without the collection of any money in advance, it would be naturally double what it would be for twenty days, and for twenty days it was found to be \$37,923.00, or \$38,000.00; and if that amount were doubled, it would be \$76,000.00. That would give forty days of continuous operation without a dollar being derived from any other source for that purpose."

"Q. In view of the fact that they have no means of collecting,—in forcing collection until after the expiration of the month, would it not be fair to allow it on that basis?"

"A. That basis is nearly allowed. There is \$60,000.00, which means of that \$76,000.00 there is only \$16,000.00 to be collected within twenty days of the month, and that is a very small  
3266 proportion of the monthly income of the Company."

"Q. You will consider, then, that \$60,000.00 is sufficient to equip them in the matter of working capital?"

"A. I should regard it as ample for condition, as the necessity for working capital is to pay only for satisfactory and convenient operation of the Company. It is not meant to take care of any improvements or betterments, because they are advanced in another way, and the financing is paid for by charges of interest during construction. You can not charge interest during construction on an amount of money and also add it to capital account and let it draw interest as a portion of your capital account. Those two must be separated."

"Q. Well, Mr. Lyndon, I would like you to then carry forward some figures on the different methods that you have pursued in valuing this property,—to add these different items to the depreciated values you have given us. You have given us the depreciated value, and we would like to have you add to that value of the physical plant,—the physical property of the plant, the items of stores and supplies and of working capital as you found them to be, and give us those totals in each instance."

"A. On the basis of cost of the property less depreciation and the addition of stores and supplies and working capital, the present value is \$2,845,248.00. On the basis of the Company's reproduction value in 1914, and subsequent additions as made at cost from  
3267 1915 to 1919, duly depreciated, and the additions of stores and supplies and working capital, the value is \$3,281,844.00,—a difference of about \$450,000.00."

"Q. I didn't understand you. Which method of arriving at the value of 1914 did you pursue?"

"A. I have given you both; one is the Company's claim in 1914, plus the additions made since, as per the books; and the other is the actual cost from 1901 to the present time."

"Q. Now, this one included the overheads claimed by the Company?"

"A. The Company's reproduction cost did include the overheads paid by the Company."

"Q. And this one you have used of 1914 basis——"

"A. (Interrupting.) Yes, sir."

"Q. (Continuing:) And added the additions since?"

"A. Yes, sir."

"Q. And stores and supplies and working capital?"

"A. (Interrupting.) Have been added to those. That's \$100,000 even, sixty and forty,—the sum of these two items."

"Q. Now, let me understand that, Mr. Lyndon. By the first method you have added to the cost of the plant as depreciated, stores and supplies and working capital?"

"A. Yes, sir."

"Q. And you get what figure?"

"A. \$2,845,248.00."

3268 "Q. And how did you arrive at the other,—what was the other computation you made?"

"A. The Company's reproduction value in 1914, plus book cost of additions made since that time, plus——"

"Q. (Interrupting.) Well, first let's get the amount you started with in 1914 of the Company's reproduction."

"A. \$2,672,211.00."

"Q. That included those overheads they claimed?"

"A. Yes, undepreciated."

"Q. Now, with the additions since 1914, and stores and supplies and working capital, you get what total?"

"A. \$4,199,844.00. Now, deducting from that the depreciation of \$918,000.00, there remains as the present value on that basis \$3,281,844.00."

"Q. Now, Mr. Lyndon, what else,—what other things, if any, have you added to the actual value of this capital account, or property value of this Company?"

"A. Well, in 1918 we added an arbitrary figure, call it going concern value, of \$75,000.00. We haven't any justification for it, but the addition of some nominal amount for that is customary, and it wasn't a particular harmful thing for the public, so we simply included it more as a matter of custom. We haven't any real basis for it, except one of assumption, which——"

"Q. (Interrupting.) Mr. Lyndon, I would just like to get the figures all carried forward before this examination closed."

3269 Now, I would like to have you add the amount you have allowed for going concern or cost of establishing business,—whatever you call it, and give us your totals"

"A. On the basis of book cost less depreciation and the addition

of the ancilliary amounts, less depreciation, we find the final value \$2,920,248.00; while, if the basis of the Company's reproduction value in 1914, plus additions, be taken, we find the present value is \$3,356,844.00."

"Q. Now, Mr. Lyndon, are those the only things that you have added or taken into consideration, or think should be taken into consideration in arriving at the value of this property?"

"A. I know of nothing else."

"Q. I will ask you, Mr. Lyndon, from the investigation that you have made and from your experience in the valuation of this property, and for the purpose of rate making and establishing the value of this property as a basis of a return to be paid by this public, what you consider the present value of this property to be,—what, in your opinion, the present value of this property is?"

"A. The present value of this property, in my opinion, is its original cost less accrued depreciation, and represented by the figures, which are \$2,920,248.00, or, in round numbers, \$3,000,000.00.

"Q. That is what you consider the fair value of this property for the purpose of rate making?"

3270 "A. Yes, sir."

"Q. Mr. Lyndon, we referred a moment ago to this cost of establishing business, or going concern. Mr. Frank asked you if you allowed that \$75,000.00 out of a spirit of liberality, and you answered, I think, that you could see no reason for allowing it,—that it was done more out of custom. Now, Mr. Lyndon, let's look at that a little bit. Isn't there bound to be something in the nature of an established business and a business that stands ready to operate, as distinguished from one which is not? Isn't there some advantages over an established and going business—in an established and going business?"

"A. In a measure, that is true of a utility. Of course, there is always a tendency to confuse a little bit, good will with going concern. No such thing as good will can adhere to a public utility that has a monopoly. But in the case of a going business, while there is an advantage in having it a going business, it must be remembered that this going business was produced to the advantage of the utility itself; that is, the utility started and grew and it extended by reason of a demand for whatever service it might supply, and in making these extensions and in performing this service, it has made a profit; it has always made a profit; if it has not made a profit, then by an amount which is the deficiency over the

3271 profit it should have made, it is entitled to set up a figure in its capital account as cost of establishing business. The cost of establishing business must be a real amount of money; it must be something the Company has experienced."

\* \* \* \* \*

"The chances are that material like copper and wire and poles, where they are lying in a warehouse and not susceptible to furnishing a demand anywhere, the amount that the particular material,

as applied to a specific purpose, it is removed from that general demand, is it not?"

"A. Yes, sir."

"Q. And it must then be sold to whoever will come along and buy whatever is constructed of this particular material?"

"A. If the plant is a constructed, operating utility."

"Q. So then, the only way of realizing upon this advanced value would be finding somebody who would buy the utility based upon this advanced price?"

"A. Yes, sir."

"Q. The number of purchasers of public utilities are necessarily quite limited, when considered in connection with ordinary buildings and construction, are they not?"

"A. As far as I know, there are none now."

3272 "Q. Mr. Lyndon, then is there any way,—in your judgment, then, is this so-called advance merely theoretical, or an actual advance upon which the owner of poles and wire and copper can take a profit?"

"A. It's only theoretical, in that it is impossible for the owner to take the profit by any method I can conceive to dismantle and sell parts of the plant. He might be able to dispose of it as junk, but to sell the plant as an operating utility at anything like the theoretical value which would be given, I would regard as commercially and financially impossible."

"Q. Practically absurd, would it not?"

"A. It so seems to me."

"Q. In your opinion, would any shrewd man, even though he had the desire to embark in the telephone business, pick out a time when prices had abruptly changed their level and taken a level around 100% higher, where he knew that that absurd change was due to a specific cause and the cause was not yet removed,—would any reasonably shrewd business man embark in a venture at that time?"

"A. I will answer that by telling you the policy adopted in my office about the middle of 1914,—the beginning of 1915. We occasionally have requests to report on projected enterprises, particularly hydro-electric development, although Mr. Frank insists my limitations are the storage battery; I have always stated to prospective clients that there was no use in making reports for the then  
3273 development of any water power with long distance transmission connected with it, because the investor would run the risk of seeing his values diminished and diminished permanently; and he would sustain a permanent loss that he could not hope to collect interest on, simply because the plant would have been developed at an unpropitious time. Now, that is the policy I have adopted in my office and that is the best comparison of my views."

3274 C. A. GATES, a witness for the complainant, testified as follows:

The cost of the subscribers has not been paid for by the public, or anything of the kind. I am not referring to the subscribers we have here.

"Q. But you are talking about this imaginary plant, the losses you are going to run into in the imaginary plant, but keeping in mind that we are concerned primarily with this plant, I am pointing out to you that this plant wasn't built in four years, and you couldn't get your subscribers attached and run into a deficit, but I am pointing out to you under this head and am trying to determine the rate upon which you can go along contemporaneously with the growth of the plant and attach your subscribers. Now, that cost of attaching your subscribers is paid out of the operating expenses; that's true, isn't it?"

"A. As I have stated to you, after the plant is in operation, the cost of advertising and canvassing is operating expenses."

"Q. That happens, then, here in the plant today?"

"A. That is not represented by this set-up here."

"Q. I am not concerned at all with your imaginary set-up. It is very pretty, but I am not concerned with it. So, then, that is true—my statement is true that his cost of establishing business, 3275 such as advertising and soliciting and attaching the subscribers, has been paid for out of the operating expenses?"

"A. Not the cost I have put in the appraisal."

"Q. I am talking about the Telephone Company, not the imaginary one; I am talking about this one. You know what I mean by that. Isn't it a fact that the cost of getting these subscribers from year to year, as the plant has grown and developed, has been taken care of in and paid out of the operating expenses? I am asking you the question, and we are going to go all the way through with this, and there is no use in your trying to divert it. I am asking you that question, if it isn't a fact that these expenses, such as advertising, salaries of soliciting agents and similar expenses calculated to add subscribers, have not been paid out of the operating expenses of this particular plant?"

"A. Of the plant in Houston today, as it exists?"

"Q. Yes, sir."

"A. I could not tell you that with absolute certainty, because I am not familiar with the books."

"Q. But don't you know that it is a fact?"

"A. I know that at the present time the cost of advertising and canvassing is charged to an account known by that name, and is charged to operating expenses now, but the bookkeeping methods have changed and I have not been through the books of the 3276 Company in years gone by, and I do not know where that money was charged."

"Q. But the truth is, and you know, as a public utility man, that since the installation by this Company of the system of keeping books under the Interstate Commerce Commission regulations, that a great many things that had theretofore been charged to operation were taken out of operation and made chargeable to other accounts, and a great many of them to Capital Account?"

"A. I know that a number of changes were made in the accounting system."

"Q. As far as this plant is concerned, these things have been paid for out of operating expenses?"

"A. No, I will not agree to that entirely."

3277 The above and foregoing Statement of Testimony and Proceedings taken and had at the trial of the above styled and numbered cause having been submitted to the Court by counsel for Plaintiff and Defendants, the same is hereby approved this 2nd day of February, A. D., 1920.

GEO. WINFIELD JACK,  
*United States District Judge.*

The parties hereto, Plaintiff and Defendants, waive service of notice and agree that the foregoing Statement of Testimony and Proceedings had in the trial of this cause may be approved by the Court and filed as a part of the record on appeal.

D. A. FRANK,  
JOSEPH D. FRANK,  
WM. H. DULS,  
*Solicitors for Plaintiff.*  
W. J. HOWARD,  
*Solicitor for Defendants.*

3278 *Clerk's Certificate.*

In the District Court of the United States for the Southern District of Texas, at Houston.

I, L. C. Masterson, Clerk of the District Court of the United States for the Southern District of Texas, do hereby certify the foregoing to be a true and correct copy of the record, assignment of errors, and all proceedings in the case, as called for in the Præcipes for transcript on Pages 1512-1516 inc. 2404-2406 inc. & 3239 of said transcript, in Cause No. 108 on the Equity Docket of said Court, entitled Southwestern Bell Telephone Company, Plaintiff, (Substituted by order of Court as party Complainant in the place of The Southwestern Telegraph and Telephone Company) versus The City of Houston et al., Defendants, as the same now appears on file and of record in my office.

To certify which, witness my hand and the seal of said Court at Houston, in said District, this the 2nd day of February, A. D. 1921.

[Seal of United States District Court, Southern District of Texas.]

L. C. MASTERSON,  
*Clerk United States District Court,*  
*Southern District of Texas.*

Endorsed on cover: File No. 28,081. S. Texas D. C. U. S. Term No. 219. The City of Houston, appellant, vs. Southwestern Bell Telephone Company. File No. 28,082. Term No. 220. Southwestern Bell Telephone Company, appellant, vs. The City of Houston et al. Filed February 7th, 1921. File Nos. 28,081 and 28,082.



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No. 219

IN THE  
Supreme Court of the United States  
OCTOBER TERM, 1921.

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THE CITY OF HOUSTON,

Appellant,

vs.

SOUTHWESTERN BELL TELEPHONE COMPANY,

Appellee.

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APPEALED FROM THE DISTRICT COURT OF THE  
UNITED STATES FOR THE SOUTHERN DISTRICT  
OF TEXAS.

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BRIEF FOR APPELLANTS

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STATEMENT

On October 22nd, 1909, the City of Houston, acting under its charter power granted it by the Legislature of the State of Texas, which power is not questioned, enacted an ordinance fixing the charges that could be made by any person, firm or corporation engaged in the business of furnishing telephone service and connections to the citizens of said City of Houston. The maximum rate that could be charged under this ordinance by any exchange having in excess of 3,000 subscribers was \$5.00 per month for business or office connections, and \$2.00 per month for residence connections, and for party line service, business or office, \$3.00 per month, and residences, \$1.50 per month. The ordinance provided a penalty and any person violating same could be prosecuted and fined. (Record p. 5.) The appellee, Southwestern Bell Telephone Company, the same as The Southwestern Telegraph & Telephone Company referred to in the record, which was engaged in furnishing telephone service to the citizens of the City of Houston and had and has more than 3,000

subscribers, filed this suit against the City of Houston and its mayor, council and other officers, to enjoin it and them from enforcing the said ordinance. The ground upon which the injunction was sought was that the rates fixed by said ordinance were confiscatory, unreasonable and insufficient to permit it to operate and maintain its said telephone exchange without actual loss, and that such rates were wholly insufficient to permit it to earn any return whatever upon its property and investment that such ordinance continued and fixed confiscatory rates and was unconstitutional, void and unenforceable and contrary to and in violation of the Constitution of the United States, and particularly the Fourteenth Amendment thereto, prohibiting the taking of property without due process of law, and guaranteeing to all persons the equal protection of the law. (Record p. 10.)

The defendants excepted to the bill for want of equity and denied the allegations of the bill and affirmatively pleaded that the company was estopped from claiming any earning or return on any amount other than the capital actually invested, by reason of what is known as the "Merger Ordinance," same being Sub-section "E" of Section 1 of an ordinance passed May 10th, 1915, by the City Council of the City of Houston, entitled: "An ordinance authorizing the consolidation and merger of the Houston telephone exchange of The Southwestern Telegraph & Telephone Company (the same as the Southwestern Bell Telephone Company (Record p. 796), and the telephone exchange of the Houston Home Telephone Company, providing the terms and conditions of such consolidation and merger," it being provided in such ordinance that plaintiff could earn a fair return upon only the capital actually invested in the Houston plant, it being agreed that for a term of 5 years from said date a fair return upon said capital and investment should not be less than 7 per cent or more than 8 per cent. That the said telephone company accepted the said ordinance, whereby it contracted, agreed and bound itself not to require a return or earning upon anything other than the capital invested in the Houston plant. (Record p. 27.) The cause being at issue,

it was, on August 25th, 1919, referred to a special master to take evidence and report his findings of fact and conclusions of law thereon. (Record p. 28.)

Thereafter, on June 7th, 1920, the Special Master filed his report (Record pp. 29-45), in which he found the value of the property used by the plaintiff and necessary to the service rendered to be \$6,003,000, divided as follows: Physical Property, \$5,500,000; Going Concern Value, \$765,000; Working Capital, \$238,000. He approved the 25 per cent allowance to the local exchange for handling the long distance tolls, approved the 4½ per cent license contract, whereby the American Telegraph & Telephone Company appropriated 4½ per cent of the gross revenues of the local exchange for certain apparatus furnished and services claimed to be rendered, allowed an annual Reserve for Depreciation of 6.33 per cent, approved all allocations of expenses incurred generally by the plaintiff in operating a number of telephone exchanges, fixed 8 per cent as the lowest rate that would not be confiscatory, and recommended a decree enjoining the enforcement of the ordinance.

To this report of the Special Master the defendant City of Houston excepted. (Record pp. 46-49.) These exceptions are as follows:

"1st. For this, that the said Master has found, decided and reported, as appears on page 9 of his report, that the reproduction method affords the strongest evidence of value and that the original cost furnishes but little evidence of present value, and in attaching more weight to the testimony of the value based on the reproduction theory than that based alone on the historical or cost value.

Whereas, the Master should have found, reported and decided that at least as much, if not more, weight should have been given to the historical or original cost, than to the value based upon the present cost of reproducing the Houston Telephone Exchange the property involved herein.

2nd. For this, that the said Master has found, decided and reported, as appears on page 11 of his report, that the property owned by the plaintiff company, used and useful

in the telephone service, in the City of Houston, is of the value of \$6,000,000.

Whereas, the Master should, from the evidence, have found, decided and reported that the value of the property of the plaintiff used and useful in the telephone service in the city of Houston is of the value of \$3,000,000.

3rd. For that the Master has found, decided and reported, as appears on page 11 of his report, that the value of the physical property, in its present condition, used and useful by the plaintiff in the telephone service in the use of the City of Houston, is \$5,500,000.

Whereas, the Master should have found decided and reported that the value of the physical property of the plaintiff used and useful of the telephone service in the City of Houston, was not more than \$2,750,000.

4th. For this, that the Master found, decided and reported, as appears on page 11 of his report, that in addition to the physical property of the plaintiff, used and useful in the telephone service of the City of Houston, such property had an intangible value, styled "Going Concern Value", amounting to \$750,000.

Whereas, from the evidence, the Master should have found, reported and decided that the intangible assets, including "Going Concern Value" or cost of establishing business, was not in excess of \$50,000.

5th. For this, that the Master has found, decided and reported, as appears on page 11 of his report, that the plaintiff is entitled to an allowance for working capital of \$238,000.

Whereas, from the evidence, the Master should have found, decided and reported that the plaintiff was entitled to working capital not in excess of \$100,000.

6th. For this, that the Master has found, decided and reported as appears on page 13, of his report that 25 per cent of the toll revenue collected in Houston, which the company credits to the Houston exchange as owners of such exchange, is a fair allowance to such exchange to cover its part in the operation of the toll lines and for billing and collecting the toll accounts.



Whereas, the Master should have found that all the property of the Houston exchange was in addition to the service it furnished to local subscribers, being also used jointly with the toll lines of the plaintiff company, to earn a large amount of tolls, same being for the year 1919, approximately \$400,000, and that the value of the property of the Houston exchange used and useful for furnishing local telephone service in the City of Houston should be reduced by the proportionate use of such property in handling such long distance tolls, and should have further found, decided and reported that 25 per cent was not a sufficient amount to be credited to the revenues of the Houston exchange, but that at least 60 per cent of such toll collections should be credited to such Houston exchange.

7th. For this, that the Master found, decided and reported, as appears on page 17 of his report, that the charge of  $4\frac{1}{2}$  per cent on certain gross receipts of the Houston Exchange, amounting to approximately 85 per cent of the total gross receipts of the Houston exchange, which is paid to The American Telegraph & Telephone Company in payment for certain services and the use of certain instruments owned by The American Telegraph & Telephone Company, and leased to plaintiff Company, was a proper operating charge against the said gross income received by the plaintiff company from the operation of the Houston telephone exchange.

Whereas, the Master should have found, decided and reported that the cost of said services and the use or rental of said instruments was not shown by plaintiff and that for this reason the said charge should have been either greatly reduced or wholly disallowed.

8th. For this, that the Master found, decided and reported, as shown on pages 17 and 18 of his report, that it was the right and duty of the plaintiff, in order to enable plaintiff to replace its property used and useful in the Houston telephone service, when it should come to the end of its useful life, and to take care of wear, tear, rust, rot, obsolescence, inadequacy changes in the art, business demands requirements and casualties, the sum of 6.33 per cent upon

the value new of the physical property, or \$348,150 for the year 1919, as a reserve for depreciation.

Whereas, the Master should have found, decided and reported that 4 per cent upon the value, new, of the physical property at a valuation of \$3,000,000, or \$160,000 for the year 1919, was a proper and sufficient amount set aside as a reserve for depreciation.

9th. For this, that the Master found, as shown on page 19 of his report, that the total expenses of the company for the year 1919 were \$1,204,262, and that its total revenue was \$908,258, showing that the company operated its property in the Houston telephone exchange for the year 1919 at a loss of \$306,204.

Whereas, the Master should have found, decided and reported that the expenses of the plaintiff in operating the said Houston telephone exchange in the year 1919, after allowing the proper depreciation reserve, were not in excess of \$1,000,000, and that many of the items making up such amount were excessive and that others should have been wholly disallowed and that the plaintiff company, not having disclosed all the revenues resulting from the operation of the said Houston exchange, that it was impossible to determine the amount of such revenues, and for that reason unable to determine what the net earnings of such plaintiff company was, for the year 1919, in the operation of its Houston exchange.

10th. For this, that the Master found, decided and reported, as shown on page 20 of his report, that anything less than 8 per cent return on plaintiff's property would be confiscatory.

Whereas, the Master should have found, reported and decided that a return of as much as 6 per cent on the value of such property would not be confiscatory.

11th. For this, that the Master found, as is shown on pages 20 and 21 of his report, that the plaintiff company is not estopped by subdivision "E" of Section 1 of the Merger Ordinances of 1915 to make a claim for a fair return on its property, fixing the value thereon on any theory other than the cost thereof.

Whereas, as shown by the evidence, the Master should have found, decided and reported that the plaintiff company was so estopped by reason of the said subdivision of said merger ordinance from claiming a return on any value other than the original cost of its property.

12th. For this, that the Master found, reported and decided, as appears on pages 21 and 22 of his report, that the plaintiff company is entitled to be heard in a court of equity and to the relief sought therein.

Whereas, the Master should have found, decided and reported, that, as shown by the evidence, the plaintiff company did not make such a full and complete disclosure in regard to its revenues and particularly in regard to the amount which would be deducted from the value of the property of the Houston telephone exchange on account of the additional use and service such property was put to by the plaintiff company in earning other revenues, to-wit, its long distance tolls; and on account of the said plaintiff company failing to disclose the result of its financial dealings with the Western Electric Company and the profits resulting therefrom, involving the purchase by the plaintiff from the Western Electric Company of large amounts of property equipment and supplies, both the plaintiff and the said Western Electric Company, as appears from the evidence, being owned by the same company, to-wit, The American Telegraph & Telephone Company, in the following manner, that is to say, that the said American Telegraph & Telephone Company owned practically all of the stock of both the plaintiff company and the said Western Electric Company, and the Master should have further found that the said plaintiff company was not entitled to relief in a court of equity, because it made no effort to do equity and has not come into the court with clean hands.

13th. For this, that the Master found, decided and reported, as appears from pages 22 and 23 of his report that the rates fixed by the ordinances of 1909 applied under present condition to prevent plaintiff from obtaining a fair return on the value of its property used and useful in rendering telephone service in the City of Houston, Texas, and

that such rates are, therefore confiscatory and that the enforcement of said ordinance under such conditions should be enjoined.

Whereas, the Master should have reported that on account of the fact that the plaintiff company had not made a full and fair disclosure of its affairs, and particularly had not shown that the telephone exchange of the City of Houston was credited with the proper and sufficient part of the toll earnings and no disclosure was made as to the extent to which the value of the property used by the plaintiff company in furnishing the telephone service in the City of Houston should be reduced on account of such additional service and use to which the said property was put in earning the toll revenues and further that it had not made a disclosure of the profits realized by the parent company, The American Telegraph & Telephone Company, which owns the plaintiff company in the manner above stated, on account of the purchases of the equipment and supplies from the Western Electric Company, which is also owned by the said American Telegraph & Telephone Company, in the manner above quoted."

The exceptions came on to be heard by the court and Exception No. 11 was by the court sustained and the amount upon which the plaintiff company was entitled to receive a return was by the court fixed in the amount actually invested, which the court found to be the sum of \$4,691,567, instead of \$6,003,000, as found by the Master. In all other material respects the exceptions of the defendant to the special master's report were overruled. (Record pp. 50-59.)

The City of Houston assigned errors to the judgment and presented a petition for appeal, which, on November 15th, 1920, was granted by the Honorable George Whitfield Jack, Judge of the District Court of the United States for the Western District of Louisiana, who presided at the trial of said cause, and this cause was thus brought to this court for review. (Record pp. 61-65.)

## ASSIGNMENTS OF ERRORS.

## FIRST ASSIGNMENT OF ERROR.

"The Honorable District Court erred in holding and finding that the plaintiff, Southwestern Telegraph & Telephone Company, has invested in the Houston exchange, as shown by its books, the sum of \$4,671,567, upon which it is entitled to earn a return, for the reason that the proof shows that in the said amount so shown by the books there was included a very considerable amount of property used exclusively in handling long distance tolls; and, further, that the sum of \$700,000 was not being used and was not useful in rendering telephone service to the people in the City of Houston who were subscribers to such service."

## SECOND ASSIGNMENT OF ERROR.

"The Honorable District Court erred in sustaining against defendant's Exception No. 6 thereto, the report of the Special Master, approving and division of the receipts derived from the long distance calls originating in the exchange of the City of Houston, whereby only 25 per cent of such receipts were credited to the local Houston Exchange and added to its receipts, for the reason that the proof showed that such 25 per cent would not pay the expense incurred by the said exchange in the City of Houston in handling such long distance calls, and the plaintiff which owns both the local exchange and the long distance lines, both of which were engaged in handling such long distance calls made no attempt to show to what extent the local exchange property was valuable in handling such long distance and to what extent it should participate in the profits derived from handling such long distance calls."

The said Exception No. 6 was as follows:

"6th. For this, that the Master has found, decided and reported as appears on page 13 of his report that 25 per cent of the toll revenue collected in Houston, which the company credits to the Houston exchange, as owners of such exchange, is a fair allowance to such exchange to cover

its part in the operation of the toll lines and for billing and collecting the toll accounts.

"Whereas, the Master should have found that all the property of the Houston exchange was in addition to the service it furnished to local subscribers, being also used jointly with the toll lines of the plaintiff company, to earn a large amount of tolls, same being for the year 1919, approximately \$400,000 and that the value of the property of the Houston exchange, used and useful for furnishing local telephone service in the City of Houston, should be reduced by the proportionate use of such property in handling such long distance tolls, and should have further found, decided and reported that 25 per cent was not a sufficient amount to be credited to the revenues of the Houston exchange, but that at least 60 per cent of such toll collections should be credited to such Houston exchange." (Record p. 46.)

Said exception was by the court overruled.

### THIRD ASSIGNMENT OF ERROR.

"The Honorable District Court erred in overruling defendant's Exception No. 7 to the Special Master's Report, and in approving the report of the Master that the 4½ per cent of the gross revenues of the Houston Exchange, paid to the American Telephone & Telegraph Company, under what is known as the A. T. & T. License Service Contract, whereby the American Telephone & Telegraph Company collects from the exchange in the City of Houston 4½ per cent of its gross earnings in payment, as claimed by the American Telephone & Telegraph Company for certain instruments furnished and certain service claimed to be rendered such Houston Exchange under said contract, was a legitimate operating expense to be deducted from the earnings of the local Houston Exchange, because the proof showed that the American Telephone & Telegraph Company owns ninety-nine and a fraction per cent of the stock of the plaintiff, the Southwestern Telegraph & Telephone Company, which operates the Houston Exchange and only the cost of such service should be deducted from the revenues and charged to the expense of operation, and there was no attempt made by the plaintiff to show the cost or rental value of the instruments furnished, or the



cost of the service claimed to have been rendered the Houston Exchange."

Said Exception No. 7 was as follows:

"7th. For this, that the Master found, decided and reported, as appears on page 17 of his report, that the charge of 4½ per cent on certain gross receipts of the Houston Exchange, amounting to approximately 85 per cent of the total gross receipts of the Houston exchange, which is paid to The American Telegraph & Telephone Company in payment for certain services and the use of certain instruments owned by The American Telegraph & Telephone Company, and leased to plaintiff company, was a proper operating charge against the said gross income received by the plaintiff company from the operation of the Houston telephone exchange.

"Whereas, the Master should have found, decided and reported that the cost of said services and the use or rental of said instruments was not shown by plaintiff and that for this reason the said charge should have been either greatly reduced or wholly disallowed." (Record p. 47.)

Said exception was by the court overruled.

#### FOURTH ASSIGNMENT OF ERROR.

"The Honorable District Court erred in approving against defendant's Exception No. 8, that the allowance was excessive, the report of the Special Master, allowing the plaintiff as a reserve for depreciation a rate of 6.33 per cent on \$4,671,567, the value of the property as found by the court, for the reason that such a rate is excessive, the weight of the evidence showing that \$4.00 per station or 4 per cent annual annuity was sufficient to create a proper reserve for depreciation."

Said Exception No. 8 was as follows:

"8th. For this, that the Master found, decided and reported, as shown on pages 17 and 18 of his report, that it was the right and duty of the plaintiff, in order to enable plaintiff to replace its property used and useful in the Houston telephone service, when it should come to the end of its useful life, and to take care of wear, tear, rust, rot, obsolescence, inadequacy changes in the art, business demands requirements and casualties, the sum of 6.33 per cent upon the value, new, of the physical property, or \$348,150 for the year 1919, as a reserve for depreciation.

"Whereas, the Master should have found, decided and reported that 4 per cent upon the value, new, of the physical property at a valuation of \$3,000,000, or \$160,000 for the year 1919, was a proper and sufficient amount to set aside as a reserve for depreciation." (Record p. 47.)

Said exception was by the court overruled.

#### FIFTH ASSIGNMENT OF ERROR.

The Honorable District Court erred in overruling defendant's Special Exception No. 10 to the Special Master's Report, and in approving such report and finding of the Master, that the plaintiff should receive a return of 8 per cent upon its capital invested in the exchange in the City of Houston, and that any rate of return less than that would be confiscatory, for the reason that such rate of 8 per cent is much in excess of the legal rate, which is 6 per cent, as fixed by the Statutes in the State of Texas, and as disclosed by the proof is much in excess of the generally prevailing conventional rate on well secured loans in the community, and much in excess of a rate that could be deemed confiscatory within the meaning of the Fourteenth Amendment of the Constitution of the United States."

Said Exception No. 10 was as follows:

"10th. For this, that the Master found, decided and reported, as shown on page 20 of his report, that anything less than 8 per cent return on plaintiff's property would be confiscatory.

"Whereas, the Master should have found, reported and decided that a return of as much as 6 per cent on the value of such property would not be confiscatory." (Record p. 48.)

Said exception was by the court overruled.

#### SIXTH ASSIGNMENT OF ERROR.

"The Honorable District Court erred in overruling defendant's Exception No. 12 to the Special Master's report, and in not holding that the plaintiff had failed to do equity and had no standing in a court of equity, and in failing to dismiss plaintiff's bill for want of equity for the reason that it appears from the proof and from the findings of the Master, and the findings of the Trial Court that The American Telephone & Telegraph Company owns practically all of the

stock in the plaintiff's company, namely the Southwestern Telegraph & Telephone Company, which operates the local exchange in the City of Houston, and also practically all of the stock of the Western Electric Company, which manufactures the greater part of the supplies and equipment that are used in the extension and the operation of said local exchange, and the plaintiff made no full or fair disclosure as to the prices charged and the profits realized by the Western Electric Company, on the supplies and equipment so furnished to such local exchange, and upon which prices the rate of return to plaintiff is sought to be based, but it was affirmatively shown from the evidence that the said Western Electric Company, on the supplies and equipment furnished the Houston Exchange, charged excessive and exorbitant prices upon which prices it is basing the rate of return on its property, to be collected from the subscribers to the service furnished by said exchange to the people of the City of Houston."

Said Exception No. 12 was as follows:

"12th. For this, that the Master found, reported and decided, as appears on pages 21 and 22 of his report, that the plaintiff company is entitled to be heard in a court of equity and to the relief sought therein.

"Whereas, the Master should have found, decided and reported, that, as shown by the evidence, the plaintiff company did not make such a full and complete disclosure in regard to its revenues and particularly in regard to the amount which would be deducted from the value of the property of the Houston telephone exchange on account of the additional use and service such property was put to by the plaintiff company in earning other revenues, to-wit, its long distance tolls; and, on account of the said plaintiff company failing to disclose the result of its financial dealings with the Western Electric Company and the profits resulting therefrom, involving the purchase by the plaintiff from the Western Electric Company of large amounts of property, equipment and supplies, both the plaintiff and the said Western Electric Company, as appears from the evidence, being owned by the same company, to-wit, The American Telegraph & Telephone Company, in the following manner, that is to say, that the said American Telegraph & Telephone Company owned practically all of the stock of both the plaintiff company and the said Western Electric Com-

pany and the Master should have further found that the said plaintiff company was not entitled to relief in a court of equity, because it made no effort to do equity and has not come into the court with clean hands." (Record p. 48.)

Said exception was by the court overruled.

#### SEVENTH ASSIGNMENT OF ERROR.

"The Honorable District Court erred in not holding that the plaintiff had no standing in a court of equity and in failing to dismiss plaintiff's bill, for want of equity, because it appears from the evidence that the plaintiff owns not only the local telephone exchange in the City of Houston, but also the long distance lines connecting with such exchange and that all the expense of handling the long distance calls is charged to the local exchange, including its operating expense, and that large sums are received as tolls for long distance calls, which are handled by both the local exchange and the long distance lines and no attempt was made by the plaintiff to effect a division of such receipts between the local exchange and the long distance lines in any fair or equitable manner based upon the amount invested by each, or the services performed by each, or upon any other basis with a view of accuracy, but the plaintiff merely arbitrarily apportioned to the said local exchange only 25 per cent of the receipts for outgoing calls."

#### EIGHTH ASSIGNMENT OF ERROR.

"The Honorable District Court erred in not dismissing plaintiff's bill for want of equity, it appearing that The American Telegraph & Telephone Company, which owns practically all of the stock of the plaintiff company which operates the local Houston Exchange, arbitrarily deducts from the earnings of the local exchange  $4\frac{1}{2}$  per cent of its gross earnings, without attempting to show what it costs it further appearing that the plaintiff, which, under the to supply the service for which the  $4\frac{1}{2}$  per cent is taken, and domination of The American Telephone & Telegraph Company, pays to the Western Electric Company practically all of the stock of which is owned by The American Telephone &

Telegraph Company, 4 per cent on all purchases of supplies and equipment, purchased by the local exchange without attempting to show what the cost of such purchasing agency is, thereby making it impossible to determine the revenues and expenses of the local Houston exchange."

#### NINTH ASSIGNMENT OF ERROR.

"The Honorable District Court erred in holding that the ordinances of the City of Houston, prescribing the rates that could be charged for telephone service in the City of Houston were confiscatory and violated the Fourteenth Amendment to the Constitution of the United States, and in rendering judgment, enjoining the defendant from enforcing such ordinances, because it was impossible to determine from the evidence what the revenues received by the plaintiff from the operation of the Houston Exchange were or what the expenses incurred in the operation of such exchange were."

#### QUESTIONS INVOLVED

While there are several assignments of error raising minor questions, the principal propositions upon which the appellant City of Houston relies, are that:

(1). On account of the failure of the telephone company to make any fair or proper division of the expenses incurred in and the revenues received from the long distance tolls which the local exchange assists in handling, and on account of the failure of the plaintiff to disclose the profits realized from the purchase of material and supplies from the Western Electric Company in the operation of the local Houston exchange by The American Telegraph & Telephone Company, which practically owns both the Houston exchange and the supplier, the Western Electric Company, it is impossible to ascertain even approximately the net return or earnings received by the plaintiff from the telephone service furnished to the citizens of the City of Houston and

(2). It appearing that The American Telegraph & Telephone Company owns both the Southwestern Bell Telephone Company, which operates the local Houston exchange, and

also the Western Electric Company, from which the greater part of the material and supplies used in operating such local exchange are purchased, and no fair disclosure of the profits on such material and supplies having been made, but the proof affirmatively showing that such profits were grossly excessive, the plaintiff Southwestern Bell Telephone Company had no standing in a court of equity, and its bill should have been dismissed for want of equity.

**BRIEF OF ARGUMENT ON ASSIGNMENT OF ERROR  
No. 1, RELATING TO THE COST OF THE PROPERTY.**

(Record p. 62; this Brief p. 11.)

The cost of plaintiff's property used in the local Houston exchange, as found by the court, was \$4,691,567. (Record p. 58.) The plaintiff's accountant testified that it was \$4,810,385.40. (Record p. 75.) The difference is practically accounted for by the court's reduction of the amount of working capital. (Record p. 55.) The cost of the property included \$754,000 in cost of the property as set up by plaintiff's accountant, and as found by the court, included \$754,000, known as intangibles, being the difference between the price paid by the plaintiff for the Home Telephone Company's properties and the physical value of the property so purchased now in use, plus the amount of salvage, which difference is carried as intangible capital. (Record pp. 70 and 71. See also plaintiff's Exhibit No. 10, Record p. 102.) It appears from the foregoing that of the cost and value of said property, as found by the court, the sum of \$754,000 is not used or useful in furnishing telephone service in the City of Houston and it is submitted that for such reason this amount should be deducted from the cost found by the court. *Simpson vs. Shepard*, 230 U. S. 434; 57 Law Ed. 1156; *Smyth vs. Ames*, 169 U. S. 545; 42 Law Ed. 849.



**BRIEF OF ARGUMENT IN SUPPORT OF SECOND  
ASSIGNMENT OF ERROR, RELATING TO THE  
LONG DISTANCE TOLLS.**

(Record p. 62; this Brief p. 11.)

There is no public service commission in the State of Texas, and all public utilities except railroads are unregulated as to rates, except such regulations as may be prescribed by the municipalities, so the plaintiff company is not regulated in the matter of rates that can be charged for its toll or long distance service.

The appellee, Southwestern Bell Telephone Company, in addition to furnishing telephone service to the citizens of the City of Houston, owns and operates a great many local exchanges throughout the State of Texas, and also nearly all the long distance lines in the State which connect with lines without the State. All the property used in operating the local Houston exchange is also used in handling the long distance tolls. It initiates the greater part of the tolls and terminates nearly all of them. It houses the long distance equipment. All the expenses of handling the long distance tolls, except possibly the maintenance of the property used exclusively for long distance toll purposes, are charged to the local exchange and included in its operating expenses. This will more clearly appear from the following testimony:

**DIVISION OF TOLLS**

F. M. Hoag, a witness for plaintiff, testified as follows:  
Cross-examination.

Questions by Mr. Howard:

Q. Mr. Hoag, in making this inventory, just what property in the City of Houston belonging to the Southwestern Telegraph & Telephone Company did you exclude?

A. The property not used or usable for telephone purposes.

Q. Briefly, what was that?

A. That was the Houston Home Telephone Company lot and building, the lot and building acquired by the Southwestern when they took over the Houston Home Telephone Company in Houston Heights at Harvard and 5th. A small lot, 20x20, which was a storeroom lot owned by the Houston

Home Telephone Company, and the old Taylor central office lot and building at the corner of Center and Taylor streets. Those three pieces of property. I also excluded all the dead drops. That is the wire that is not connected to working telephones, and also the wire in the buildings that are not connected to working telephones, and in residences, it being our practice in our accounting system to charge that part of the property off at the time the telephone is disconnected.

Q. Anything else excluded?

A. The transmitters, receivers and induction coils, which are not the property of the telephone company, the Southwestern Telephone Company. Also the furniture and fixtures used by the district men who have their headquarters here in Houston was excluded, in that those men have no supervision over the Houston exchange.

Q. Anything else?

A. I think that is all.

Q. My question involved all property owned by the Southwestern Telegraph & Telephone Company located in the City of Houston.

A. Yes, sir.

Q. You have overlooked, I believe, long distance—

A. (Interrupting). Yes, sir, I was considering the Houston local exchange property.

Q. I said all the property of the Southwestern.

A. Yes, sir, all the long distance property has been excluded, and that is long distance switchboards, the toll underground cables, the toll poles and wires and cable boxes, all parts of the long distance plant, including the toll test boards and telegraph equipment and other associated apparatus.

Q. That property, of course, is all owned by the same company?

A. Yes, sir.

Q. And is just a difference in the way you inventory and the account you charge it to, and all that?

A. Yes, sir.

Q. Matter of classification and segregation?

A. Yes, sir.

Q. Has the property you excluded as performing long distance toll purposes been used exclusively for long distance toll service?

A. Yes, sir.

Q. And you have not undertaken to exclude from the inventory any property that is jointly used by the long distance service—for the long distance service and the local exchange service?

A. Every telephone in Houston connected to the Houston Exchange might be used for long distance purposes, as well as local purposes.

Q. In fact, it is used?

A. A great many of them are; yes, sir.

Q. You inventoried, of course, all those lines and those exchanges?

A. Yes, sir.

Q. And those lines leading to individual telephones?

A. Yes, sir.

Q. You included all the buildings, the exchange buildings?

A. Yes, sir.

Q. Four of them, I believe, in this city?

A. Three central office buildings.

Q. And another exchange, isn't there?

A. The Capitol central office equipment is housed in the Preston central office building. There are four central offices, but three central office buildings.

Q. All those central office buildings are used by the long distance tolls?

A. In that long distance calls, when completed over a subscriber's telephone, passes through the central office equipment in those buildings; yes, sir.

Q. The buildings house the long distance equipment, don't they?

A. There is no long distance equipment in the Taylor central office building, nor in the Hadley. All of the long distance switchboards and equipment is in the Preston central office building.

Q. Housed in the Preston building?

A. Yes, sir.

Q. It is necessary that they have a home for this long distance toll apparatus?

A. Yes, sir.

Q. And that apparatus is quite considerable, and quite expensive?

A. Yes, sir.

Q. The business done and revenues received from the long distance service is very extensive, and amounts to a great deal of money in the course of a year?

A. Yes, sir.

Q. If the earnings were pooled of the long distance service and of the local exchange, the long distance service originating here, and formed one general fund, have you any idea about what proportion the revenues received from the long distance service would bear to the whole fund?

A. No, sir; that is an accounting matter.

Q. That you didn't go into?

A. I cannot answer it.

Q. Who handles that branch of the matter?

A. Our auditor.

Q. Can you give me the name of the man that probably handled it?

A. Mr. Scott.

Q. Then, I believe you say that a great many of the lines, in fact, all the lines, the individual exchanges, the individual telephones are all ready to receive long distance service, and to carry on and transmit a long distance call to the subscriber, and do it whenever the subscriber has a long distance call.

A. The telephone company has for years advertised to the effect that each telephone is the center of the system. There are over seventy-eight thousand places in the United States that can be reached from any local telephone connected with the Houston exchange.

Q. And they are a part and are used in that long distance service, and help to produce the long distance revenue, every individual telephone?

A. Yes, sir.

Q. Depending, of course, on the number of calls the particular individual subscriber receives. Some are very active in handling and carrying on long distance service?

A. Yes, sir, however—

Q. (Interrupting.) And some are very seldom used for that purpose?

A. Yes, sir, however—

Q. (Interrupting.) But all of them are equipped and ready for that service at all times?

A. Yes, sir; but if this is a proper answer to your question: The development of the local telephone rate was carried on simultaneously with the development of the local telephone exchange.

Q. I don't know that I just get what you mean.

A. The rates for local telephone service were developed as the local telephone exchange was developed. The rates for long distance service was developed along with the development of the long distance lines, and in my judgment the rate for a long distance call is between the long distance switchboards.

Q. It should be?

A. Yes, sir.

Q. But, in fact, it is not. It is from the originating indi-

vidual subscriber, say in San Antonio, to the individual subscriber in Houston to whom the message is transmitted.

A. In my judgment; no sir. My opinion is that rate is from the long distance switchboard in San Antonio to the long distance switchboard in Houston.

Q. In other words, it is chargeable only and properly to the long distance?

A. Yes, sir. And those earnings are necessary to carry the long distance calls.

Q. In that event the service of continuing these calls, transmitting them and carrying them to the long distance central office, and delivering them from the long distance central office in Houston to the subscriber is in the nature of a donation by the local exchange to the toll service?

A. Not by any means. The local exchange is credited with a percentage of the long distance earnings, which percentage is intended to cover—

Q. (Interrupting.) That refutes your answer of a moment ago, doesn't it?

A. No, sir.

Q. That is what I thought was done—both service are recognized in making up the grand total of that charge?

A. If I can finish my answer, I think I can make it clear to you.

Q. I think it is clear. My idea is clear. I would like to get yours.

A. The earnings from the long distance lines—that is, a percentage of those earnings is credited to the local exchange.

Q. Exactly.

A. That, in the case of Houston, being 25 per cent.

Q. We will get to that 25 per cent later.

A. That 25 per cent cares for the cost of completing those long distance calls in the Houston exchange.

Q. That is what we will want to ascertain later on, whether it does, or not. It is just facts I am getting at. Not whether or not it is a correct conclusion. But at any rate, the fact I am getting at, every individual telephone is available for handling long distance calls?

A. They advertise that fact and are proud of it.

Q. And you do it?

A. Yes, sir.

Q. And they are used?

A. Yes, sir.

Q. That is the practice and custom?

A. Yes, sir.

Q. The local exchange buildings are carried in the in-

ventory as you do here—they house the long distance equipment?

A. The Preston central office building does.

Q. Has offices where the long distance management is conducted and carried on?

A. But in apportioning the furniture and fixtures—

Q. You are getting into that accounting business—

Mr. J. D. Frank (interrupting): Let him answer the question and he will explain it.

A. In the inventory we only apportion a portion of the furniture and fixtures used in the handling of the business of the Houston Local Exchange.

Q. I caught that as you went over it before.

A. Yes, sir.

Q. But, nevertheless, the building itself is used by the general officers, a part of which is the management of the long distance service?

A. Yes, sir; we apportioned the office furniture and the fixtures.

Q. I understand you did in your inventory, the fixtures and the furniture?

A. Yes, sir.

Q. But you did inventory the entire building?

A. Yes, sir.

Q. And inventoried it as the property used in the local service?

A. Yes, sir.

Q. And you inventoried every individual or local telephone?

A. Yes, sir.

Q. Substantially?

A. Yes, sir.

Q. And every sub-station?

A. Yes, sir.

Q. As the property in the local service?

A. Yes, sir.

Q. You didn't undertake to set aside or apportion any part—I know you couldn't in kind, but in percentage—the part of that equipment that goes to long distance service and the part that goes to local service?

A. All of the property inventoried in the Houston exchange is necessary in the rendering of local telephone service in the Houston exchange.

Q. It is also necessary, is it not, in rendering first-class up-to-date long distance service?

A. Yes, sir; just like local service.

Q. It is to the joint interest of both of them?



A. Yes, sir.

Q. All this wiring and local sub-stations, and conduits and all this splicing, and poles, and everything of that kind is a joint enterprise, and they are used in that way, so when it becomes a matter of accounting, which I understand you didn't go into, to try to segregate and show how much of the property is used on one, and used on the other, if you had to make a division between the two as to earnings and expenses?

A. No, sir; the answer to that is the answer which I gave you just previously, which is to the effect that all of the property inventoried in the Houston exchange is necessary in the rendering of local telephone service in Houston. There could be no sub-division made.

Q. You answered the question a while ago that it was all necessary also to an up-to-date, first-class long distance service. You couldn't have a first-class long distance service in this city today without those very things that are being used in the local service?

A. We couldn't have any long distance service in Houston without telephones.

Q. That is very true; there is no question about that, is there?

A. No, sir.

Q. The local exchanges are the feeders and the revenue producers for the long distance enterprise; are they not?

A. To a great extent; yes, sir.

Q. That is, you could, in the old days, before they had many local exchanges—I guess you and I remember when the telephone came into existence?

A. Yes, sir.

Q. And the telephone would run through a town and the people would go in there and talk over the long distance exchange, and would get their messages in that way, and it was used very seldom; very extraordinary for a man to use long distance telephone service before they had exchanges?

A. Yes, sir.

Q. And then as the business progressed and the exchange were built up, and people began talking to their neighbors and to their wives, and then they began to feed the long distance lines?

A. Naturally the easier you make it for people to talk long distance, the greater the amount of business you get from them.

Q. So then, we get back to the original proposition that they are mutually beneficial to one another, the long dis-

tance helping the local exchange, and the local exchange helping long distance. That is true, isn't it, Mr. Hoag?

A. Yes, sir. But I wish to reiterate that the proper inventoried is all necessary for the local telephone service.

Q. I know that; that is obvious. But at the same time it is just as obvious that it is necessary for the long distance service?

A. It is necessary for long distance service, although long distance service can be rendered without the local telephone exchange.

Q. And it is also true that a good local service could be carried on in the community without the long distance service?

A. Yes, sir; that is true.

Q. It comes right back to the point that they are mutually beneficial, one to the other?

A. Yes, sir. (Record pp. 149-155.)

A. E. Scott, a witness for plaintiff, testified as follows:  
Cross-examination.

Question by Mr. Howard:

Q. Mr. Scott, in arriving at your expenses in operating this exchange, you primarily, upon your books, set up all expenses, including the taking care of the toll?

A. Yes, sir.

Q. Then how did you get the toll expenses out of the general operating expenses?

A. We don't take them out of it, in the making up of my figures, I attempt to get away and do get away from estimates as much as possible, my figures are actual expenses, and we have—I know we have in our expenses all our toll expenses.

Q. You have all your toll expenses?

A. Yes, sir; but to offset that we put in this 25 per cent revenue, which is the usual revenue allowed to other companies—and that allowance is there.

Q. Have you any way of telling or determining what additional expense you are put to in the way of operating by handling this toll charge?

A. I have never made any figures which would tell what the operating expenses were for the toll business, the two are so interlocked that the only way to get at it would be by making arbitrary estimates and making prorate of the various accounts, a very involved proposition, and very inaccurate when finished.

Q. You would not undertake to say that even 25 per

cent would pay the additional cost of taking care of the toll traffic?

A. I would take into consideration the fact that taking that 25 per cent basis, with companies in Texas that 25 per cent would be about right.

Q. I am talking about your books, you are here as an accountant and not as an advocate for the company, I take it?

A. Well, I haven't made any study as to whether that is right or that is wrong.

Q. You don't know?

A. No, sir; I don't know.

Q. Well, aren't your books so kept that it is possible to segregate the toll expenses from the general operating expenses?

A. No, sir; the two are so interlocked that you could only get the toll expense out by, as I said before, by arbitrary estimates, by prorates.

Q. Then the proposition is, as I understand it, you come here with a lot of intermingled accounts, some of which are occasioned by the local exchange, some of which are occasioned by handling the toll traffic, and say we have had so much expense, but to offset that, why, we will pay you 25 per cent on the outgoing toll charges?

A. Well, the fact that the figures are so intermingled and the fact that I am dealing with the records of the company, as shown by the books, is my reason for handling it in this way; it is more satisfactory to make one estimate, if you want to call the 25 per cent an estimate, than to take something out of one account and another account and all the accounts that would be involved.

Q. Well, you cannot tell us from your books how much of these general expenses was occasioned by the taking care of the toll charges?

A. No, sir, the books don't show a division between toll and the exchange expense as in regard to the use of expense; of course the toll expense in connection with the plant outside of Houston is kept as a toll expense and not included in any of my figures—that is purely toll expense; but common expenses are all included in my figures.

Q. Isn't it susceptible of determining every expense occasioned by any one telephone call, that you can take a telephone call as a unit and ascertain the expense of that call?

A. Well, that would be simply an estimate, you try to deal with a unit as small as a telephone call, you are getting down to a very small item, you will find you cannot confine

it to that one particular thing; in connection with your toll business you have your overhead, just the same as you have with your exchange business; you might in that one direct case, on that particular call, but that does not end the proposition—you have got building expense, for example, you have got your toll property, property in the same buildings with your exchange property, you have got to prorate there or make an estimate of some kind; and so it goes all along the line, all kinds of estimates and prorates would have to be worked up in order to get a figure that would be presumably correct—and then you would not be able to say it was absolutely correct, it would be a matter of opinion of the men who were making the estimate.

Q. As to that item of toll expenses, then, we have got to remain in the dark?

A. Well, I think the allowance of 25 per cent being—

Q. (Interrupting.) Well, I understand, you have told me the 25 per cent.

A. That is accepted by seven hundred companies in Texas and appears to be satisfactory.

Q. Well, are these toll companies—you are speaking of—independent companies?

A. Yes—that is, all the different companies throughout the State that make any connections with us.

Q. Are there seven hundred different telephone companies in Texas?

A. Yes, sir.

Q. Seven hundred local exchanges?

A. Well, I say seven hundred local—there are seven hundred companies that do some long distance business and who have contracts with us on this 25 per cent, or 12½ per cent basis, or some similar proposition.

Q. In these cases the Southwestern controls the long distance toll line?

A. No, indeed not; a great many of them, the little companies in one particular have toll lines themselves, are connected with us at some point—perhaps at this exchange or some other point; in some cases their own toll lines run into our board.

Q. But in most cases where you have got this arrangement there is no long distance toll line owned by the local company?

A. Probably every local company has some toll lines.

Q. It has some?

A. It has some.

Q. But then in order to get in connection with the out-

side world they necessarily have to use a long distance line of the Southwestern company?

A. Well, not necessarily; the Mackay people are down there, the Postal people are here, the Western Union Telegraph, they all have a line.

Q. What proportion of it; have you any idea?

A. No, sir; I don't know.

Q. Well, that is all. (Record pp. 147-149.)

\* \* \* \* \*

(A. E. Scott, a witness for plaintiff, cross-examination.)

Q. So, then, in short, the way this thing is set up on the books a part of the local and a part of the tolls are confused in that they are inseparable and a small part of it, maintenance and some taxes and the operators that are working where there are independent exchanges are not allocated, and, then, instead of trying to carry the scheme of allocation all the way through, so far as the expenses are concerned, and so far as the plant investment is concerned, why you just allocate this 25 per cent as a sort of an offset of compensation?

A. It is a compensation in lieu of the expenses incurred by the exchange in performance of toll work.

Q. Although you don't know upon what basis you could actually settle with the local exchange in regard to the expense?

A. Well, as I have said before, there is a number of companies that are accepting that—

Q. (Interrupting.) No, I am talking about the actual expense; you can't come here and tell us what the actual expenses are that this exchange incurs for handling the tolls?

A. No, sir; I can not.

Q. You could not do that?

A. No, sir; I could not.

Q. Then the 25 per cent is founded upon some sort of a guess or approximation?

A. It is not a guess or approximation, it is a special percentage made by ourselves with all our connecting lines and by connecting lines with—in their dealings with us.

Q. And that make it sufficient to pay the cost, regardless of what the costs are?

A. It must be pretty nearly right or the other fellow would not take it.

Q. That is your conclusion about it; you are an accountant, and your mind is supposed to dwell upon—

A. (Interrupting.) That is why I deduct the 25 per cent.

Q. You mean you initiate this 25 per cent?

A. No.

Q. You take 25 per cent because the executives of this company tell you to take it?

A. But if I had not taken 25 per cent, I would have had to make a lot of apportionment.

Q. What is your attitude towards this company, an accountant or a director of policies?

A. I have no attitude; I am an accountant.

Q. Then you could talk to me about the accuracy of your figures and bookkeeping without mingling it up with whether it is for the company or against the company; you can make those differentiations, can't you?

A. I think so.

Q. Now, foregoing for the time being, what the policy of your company is, I am asking you whether this is an accurate conclusion and whether it has been arrived at with accuracy or whether it has an element of inaccuracy in it? That is a simple question, it is either accurate or it has an element of doubt, and inaccuracy.

Mr. J. D. Frank: You assume there must be some inaccuracy in your question.

Mr. Howard: Well, if it is inaccurate he can tell me so.

A. If an allocation or a prorate—if the use of an allocation or a prorate means that your statement is going to be accurate or inaccurate, even my method of doing it or the method you are suggestion, either one, would be right or it would be wrong, because I have taken some allocations and I have not taken some that you are suggesting.

Q. Any allocation that you take, in other words, is but an approximation?

A. It is an approximation. It is an estimate based upon the best we have available.

Q. No, Mr. Scott, have you ever made any computations to find out; you have figured it out here what Houston is earning and you have probably figured out what all the different exchanges are earning, have you ever taken the trouble to take the earnings of the toll lines and the value of its property and its operating expenses and determine the annual return over and above all operation expenses, including maintenance and depreciation?

A. No, sir.

Q. Earned by the toll lines?

A. I don't think that has ever been done, Mr. Howard. It has not been done by me and I don't believe anybody else has ever done it.

Q. It can be done, can't it?



A. I don't know whether it can or not. I don't think I would be able to do it.

Q. You don't think you would be able to do it?

A. No.

Q. Well, now, let's see the process involved. The first thing you would get, the value of the toll lines, that would be comparatively easy to get, approximately correct?

A. No, that would be very difficult. It would mean an inventory and an appraisal of the toll lines throughout the entire State of Texas.

Q. Well, we will take it the way you have it on your books.

A. Well, I can't start out with that assumption. You mean go to the books and find out what the amount on the books is for toll property?

Q. You have got an inventory of your entire toll lines in the State haven't you?

A. No, sir.

Q. Is this company operating without having an inventory of its toll lines?

A. Yes, it took them about three months to take an inventory of the property here in Houston alone. We have no inventory of the properties in the State.

Q. You haven't any inventory of the toll property in the State?

A. No, sir.

Q. How do you set up the number of poles you have?

A. That is simply accumulated record of a number of items, just like my books are and an accumulated record of an amount of money; that is not an inventory.

Q. Do you mean to say, Mr. Scott, that this company is today not in position to tell how many poles it has in the operation of its Statewide business?

A. It has a figure in the record of a number of poles which they think they have and I can tell you, Mr. Howard, on the side, that it is very wrong, the number on the record.

Q. Well, then, how did they keep any account of their business, if they have not any record?

A. The number of poles we have is not important.

Q. Whether you have one hundred poles or a million?

A. The number is not valuable. It is a nice statistical record and probably some department may have some use for it, but it is not important.

Q. So what you do know about what this toll equipment cost—

A. We have a record, the accumulated book record of the cost of the tolls property, that is the toll lines. We have

the toll switchboard included on the books in our exchange switchboard account. There is no separation there.

Q. Well, your books have been kept then so you can't separate the toll lines from the exchanges at all; you can't even give me an approximate amount of property that is invested in tolls as distinguished from local?

A. I said I can't tell the amount shown by the books of the toll lines.

Q. Well, let's assume if we can get over this approximately, if you want to set it up that way, or get it from the books, just assume it can be done, it is human possibility. Then once we have the valuation we have got a start towards finding the earnings of the toll lines.

A. Once you have the valuation, you have a basis to start with, of course.

Q. Then the next thing is the amount of your earnings?

A. That is about all you want then.

Q. All right, well now, we have got too rather important steps in making this computation; now, the next thing that would concern us, would be our operating expenses, including maintenance and depreciation, wouldn't it?

A. Before you could find your net returns, you surely would have to determine what your expense was.

Q. Well, we deducted then, we get the operating expenses and we deduct it from our revenue, wouldn't we?

A. Yes, sir.

Q. What would be our next step. Then we have our net return in round dollars?

A. Yes, sir.

Q. Then, to reduce it to percentages, we would divide our net return by our capital investment?

A. Yes, sir.

Q. Now, have you any way of disputing the proposition that that computation, as Mr. Kelsey said, would amount to forty per cent on your toll line investment, as segregated and separated from your exchange property?

A. Mr. Kelsey is undoubtedly so far wrong—

Q. (Interrupting.) I know you think he is wrong.

A. We think he is wrong.

Q. You think he is wrong, but you have never done it. Your mind can't grasp the idea?

A. It would be my opinion that—that if we were making forty per cent on our toll business we probably would not have any toll business; it would be more than the traffic would bear.

Q. But it would help the traffic mightly wouldn't it? If all the operating expenses were paid by somebody else

that would tend very largely towards making the toll lines a handsome enterprise, wouldn't it?

A. If we had enough toll lines and would make one hundred or two hundred per cent profit on it, we could give exchange services free, Mr. Howard.

Q. Yes, and isn't that the reason what you claim—for showing the deficit here since time began?

A. Because we have been giving service, not only free, but for less than what it cost.

Q. And haven't you been giving what you call an apparent deficit, because, as a matter of fact, there was no real deficit and because the operation of this exchange was an auxiliary to the operation of the toll lines and that you are making money all the time out of the property in its dual capacity?

A. No, sir. (Record p. 142-146.)

Ninety-nine and a fraction per cent of the stock of the Southwestern Bell Telephone Company, which is the changed name of the Southwestern Telegraph & Telephone Company, is owned by The American Telegraph & Telephone Company, otherwise known as the Bell System. (Record p. 422.) The Bell system owns and operates four-fifths of the telephone business in the United States. (Record pp. 681 and 709.) In addition, it owns a large amount of stock, less than a majority, in other so-called telephone companies. In this situation the plaintiff company adjusts the expenses and earnings in the State of Texas between the local exchanges and the long distance lines, both of which are engaged in handling the long distance messages, by arbitrarily crediting the exchange with 25 per cent of the initial or outgoing calls.

This it does without any effort to arrive at what would be an accurate or a fair division of the tolls as between the local exchange and the long distance service; in fact, it appears from the record that it is impossible to separate these earnings, that is, to determine what percentage should be allowed to the local exchanges, based upon the property used for handling the tolls and the services performed in handling them. (Record pp. 142 and 143.) To justify this 25 per cent the plaintiff, the telephone company, introduced evidence of contracts with many other companies upon the

25 per cent basis. (Record p. 143.) It is submitted that in view of the conditions above detailed, that such evidence forms no criterion for determining the amount of revenue that should be credited to the Houston exchange by reason of its property engaged in and the service rendered in handling the long distance tolls. There is no freedom of contract and cannot be under conditions prevailing. In Houston, as in most other points in Texas, the same company owns both the local exchange and the long distance lines, and it is, of course, to its interest to have such earnings as it can appear in the service that is not regulated, and where there is no limit on the amount it will be permitted to earn. The contracts made with so-called independent companies, as will appear from the foregoing statement, are made where the local exchange is under the disadvantage of having to procure the long distance service upon such terms as the owner of the long distance will grant to them, or failing to accomplish such conditions, forego the use of long distance service.

It will be seen from the statement above set out that practically all the property of the local exchange is used in a dual service. First, furnishing local telephone service to the local subscribers; and, second, in handling the long distance tolls. It will be suggested that the City of Houston has no power to regulate rates outside its limits and that the earnings of the long distance lines cannot be taken into consideration in arriving at the earnings of the local exchange. This would clearly be true if the local property was not used in earning the long distance tolls and it would perhaps be true if the ownership of the local exchange was different from that of the long distance lines, and had made a contract for the 25 per cent, no matter how unfair such contract might be, and regardless of the disadvantages the local exchange was under in entering into the contract, but here, where the ownership is the same and the local properties are used in producing the long distance revenues, it is not only just and proper, but legal, to have the long distance tolls divided upon a fair and, as nearly as possible, an accurate basis, and while it is further probably true that

all tolls should be regarded as long distance earnings, still the rate regulating body would have the right to make an adjustment by depreciating the value of the local property to the extent that it is useful or used in handling the long distance tolls. In other words, the capacity of the local property is not exhausted by furnishing the local service, but is also used in handling the long distance tolls, and the investment should be divided on a proper basis between the regulated local lines and the unregulated long distance lines. This, of course, would decrease the investment in the local exchange and thereupon decrease the amount of earning necessary to show a proper return. All expenses, except the maintenance of the toll lines in the City of Houston, are charged to the local exchange. (Record p. 147.) The record shows that the 25 per cent is not even enough to take care of the cost of handling it, to say nothing of a return upon that portion of the value of the property that is used in handling the long distance tolls. (Record p. 156.) This was testified to by Mr. Player, one of the plaintiff's witnesses. It was testified to also by defendant's witness, Mr. Lyndon. (Record p. 169.) But the local exchange should not be confined to the mere refunding of the expenses incurred by it if the long distance service shows profit. The local exchange and the long distance lines are in the nature of joint enterprises and the profits should be ratably divided according to the investment each has in the service which produces the profits. The plaintiff company took the position that the city had nothing to do with the long distance business and declined to make any disclosure of the earnings from such service, but it was shown by the defendant from statements taken from the books of the company that the long distance service was paying about 34 per cent. (Record p. 169.) This does not seem unreasonable when it is understood that all expenses, other than the maintenance of the toll lines, are paid by the different local exchanges throughout the State, for which such exchanges receive 25 per cent of the revenue, leaving 75 per cent of all the revenues as a return upon the bare long distance lines, with no expense other than the maintenance of such lines. The long distance

revenues initiated by the local Houston exchange during the year 1919, which seems to have been taken as a basis for determining the revenues and expenses incurred by the plaintiff company, was something over \$400,000. (Record p. 961.) About \$100,000 of this was credited to the local exchange. This would barely pay the expenses incurred, leaving the large sum of \$300,000, which was earned by the joint property of the local exchange and the long distance lines, with no showing as to what proportion of this should be allowed the Houston exchange. There should first be deducted the prorata portion of the expense of maintaining the long distance lines, and then the balance of this money should be divided between the Houston exchange and the long distance lines in proportion to the amount of property of each engaged in rendering the service. The burden is upon the plaintiff company to show confiscation and with large items like this unaccounted for, it is impossible to arrive at the earnings of the local exchange, and consequently, whether or not any confiscation appears. *State vs. Public Service Commission* (Missouri Supreme Court, 233 S. W. Rep. 431-2.)

**BRIEF OF ARGUMENT IN SUPPORT OF ASSIGNMENT  
OF ERROR No. 3, RELATING TO THE A. T. & T.  
4½ PER CENT, APPROPRIATED FROM THE  
GROSS REVENUES OF THE HOUSTON  
EXCHANGE.**

(Record p. 63; this Brief p. 12.)

The appropriation of this 4½ per cent is made under what is referred to by the plaintiff telephone company as the Four and One-half Per Cent License Contract. However, the term "contract" is a misnomer. The American Telegraph & Telephone Company (which, for the sake of brevity we will hereafter designate as the A. T. & T. Co.) owns the Southwestern Bell Telephone Company in the sense that it owns 99 and a fraction per cent of its stock, and of course any contract between the two companies would reflect merely the desires and purposes of the A. T. & T. Co. In consideration of this 4½ per cent of the gross revenues so appropriated by the A. T. & T. Co., it furnishes what is known as the instrument service, same being the



use of little devices known as the induction coil, transmitter and receiver, and in addition to this, certain claimed general services, without any attempt to show what either of such services cost. (Record pp. 281-294.) The portion of this  $4\frac{1}{2}$  per cent, so appropriated, which is absorbed by furnishing the little instruments above referred to, is sought to be arrived at in different ways, that is, the plaintiff company, for the purposes of this hearing, undertook to show the value of same by computing the return on the investment, depreciation, etc. In this it valued the set, consisting of the induction coil, transmitter and receiver, at \$5.70, showing in this way, according to its contention, that the service was of the value of \$28,541 per annum, leaving \$14,251 remaining of the  $4\frac{1}{2}$  per cent so appropriated for the general services claimed to have been furnished, as above stated. (Record p. 340.) The city, however, contends that such valuation of the instrument service is much too high. It will be understood that this  $4\frac{1}{2}$  per cent appropriation is not analyzed or classified at all as set up by the books of the company and they merely furnish these little instruments and preform or claim to perform certain general services and arbitrarily appropriate  $4\frac{1}{2}$  per cent of the gross revenues. As stated, the only tangible thing included in the  $4\frac{1}{2}$  per cent appropriation is the use of the induction coils, the transmitter and the receiver. These are cheap little instruments, the manufacturing cost of which is very small. The reasonable value of the service for furnishing these instruments, based upon a rental or upon allowing a fair return over and above maintenance, as testified to by defendant's witness, Mr. Lyndon, is approximately \$13,000 per year. (Record p. 470.) And as testified to by defendant's witness, Mr. Kelsey, \$11,700. (Record p. 491.) The  $4\frac{1}{2}$  per cent charge upon the gross receipts amounts to approximately \$42,000 per year. (Record p. 340.) To account for this additional \$30,000, which is so deducted from the earnings of the Houston exchange, the plaintiffs brought down from New York City many witnesses. These witnesses have carefully worked out what they call an analysis of the work done by the A. T. & T. Co. for the local exchange owned by

them. In their testimony, which is so voluminous to permit of review, they deal in glittering generalities. (Record pp. 176 to 469.) It appears that they have quite a number of pamphlets bearing upon the telephone business, which they send out to the different exchanges and occasionally an engineer makes a trip to some of the local exchanges. They undertake to point out in several instances where they render service, such as saying that they look over the city and see in what way the plant should be developed and this, notwithstanding the fact that the local exchange has competent local engineers and also district engineers capable of doing the work. These witnesses have a carefully prepared line of testimony which they offer in rate hearings throughout the country. (Record p. 406 and 494.) As illustrative of the things they claim to do, we cite this instance: There is a bug that can bore or drill through the lead sheath which encloses the cable and at times does some injury to the cable. These witnesses have taken this bug in a bottle around to the different hearings, claiming that they are working upon a method to prevent the bug's operation. The injury done by this bug is trifling and becomes interesting only as a scientific study, but is illustrative of the practical work testified to by these witnesses. They had as witnesses on these hearings officers from two different telephone companies known as independent companies, who enlarge upon the benefits of this contract, but the proof shows that the A. T. & T. Co. owns 34 per cent of the stock in these two so-called "independent" companies. (Record p. 406-413.) All this testimony is very vague and indefinite and is in a general form only. (Record pp. 176 to 469.) It would support apparently a 25 per cent deduction from the gross earnings as easily as 4½ per cent. There would seem to be no limit to an estimate of the value of the services performed. Viewed from the standpoint of the Bell employes, they are invaluable. Viewed from the standpoint of the independents, they are almost negligible. (Record pp. 469-519.)

However, our contention is that no matter how efficient these services may be or how valuable, it is not a question

of efficiency or value, but a question of the cost of furnishing them. The A. T. & T. Co. owns 99 and a fraction per cent of the stock in the plaintiff company, which operates the Houston exchange. It is to all intents and purposes the owner, for we take it the court is not going to look at the form of this matter and ignore the substance. So then, the cost is the only thing that should appear in the operating expenses which are deducted from the revenues. There is no reason why the A. T. & T. Co., which owns the operating company, should, in addition to the return that it receives from the payments made by subscribers to the telephone service, receive in addition thereto certain indirect revenues or profits through such agencies as it is here sought to have invoked. If these services are reasonable and necessary, the cost of same should be deducted from operating expenses, even though such cost is in excess of  $4\frac{1}{2}$  per cent, and if the cost is less than the  $4\frac{1}{2}$  per cent, still nothing but the cost should be deducted. This question, so far as we know, has never been acted upon by this court. It has been allowed by some commissions and rejected by others. The plaintiff company admits that it has made no effort to determine the cost of this service (Record p. 814), and we submit that the burden is upon it to do it before it can be deducted from operating expenses. This we do not consider a technical contention. If schemes such as this are to be permitted, there will be no way of checking the operating expenses. *State vs. Public Service Commission* (Missouri Supreme Court), 233 S. W. Rep. 432.

**BRIEF OF ARGUMENT IN SUPPORT OF THE FOURTH  
ASSIGNMENT OF ERROR, RELATING TO RESERVE  
FOR DEPRECIATION.**

(Record p. 63; this Brief p. 13.)

That the company is entitled to set aside out of its earnings a certain amount for depreciation, of course, is not denied, nor will it be denied that this amount should be ample to keep the investment at all times up to 100 per cent, or to replace the property at the end of its useful life. The dispute regarding this matter arises purely upon the amount necessary for this purpose. The Master made an allowance

of 6.33 per cent, based upon a valuation of \$5,500,000, upon all physical property except real estate and working capital. (Record p. 41.) This amounted to \$348,150. The court modified this allowance (Record pp. 41 and 59), by using the same percentage but applying it to the cost of the property, making \$289,380 to be set aside annually as a reserve for depreciation. The testimony upon this subject is too voluminous to make it practical to undertake to review it. It will be found in the Record, pages 519 to 617. The percentage of 6.33 was the one assumed by Mr. Hoag, the chief engineer for the company. (Record p. —.) Both Mr. Kelsey, who had more than 25 years practical experience in the telephone business, both as an operator of telephone exchanges and as a manufacturer of telephone equipment, says that \$146,000 per annum would be sufficient annual reserve fund. (Record p. 591.)

The record in this case shows that this local exchange is in 92 per cent condition, in other words, it lacks 8 per cent of being as good as new. (Record p. 1401.) But turning to the exhibit (Record p. 806), introduced by the plaintiff company, showing its realized depreciation, that is, the amount actually expended to keep the plant in its present high state of preservation, such realized depreciation is nothing like the large sum allowed by the court for this purpose and is so much less than that sum as to point to the irresistible conclusion that the annual allowance for a reserve for depreciation is much too high. It is true plaintiffs show an average of 6.8 per cent for the last eleven years, but this included the deferred betterments for the first eight years, when the plant was new and which were made in subsequent years, making the average for the whole period much less than 6.33 per cent.

#### **BRIEF OF ARGUMENT IN SUPPORT OF ASSIGNMENT OF ERROR No. 5, RELATING TO RATE OR RETURN.**

(Record p. 63; this Brief p. 14.)

The evidence of all but one of plaintiff's five witnesses concerning interests rates in the vicinity of Houston, and which will be found in the Record pages 619 to 660 is to the

effect that loans upon business property in the community bear from 6 to 7 per cent. This should measure the maximum of a return, or 7 per cent, and is all that should be allowed by the rate-making body. There is, however, a distinction between a confiscatory rate and a fair rate. We feel safe in saying that no court or commission has ever held that a rate of as much as 6 per cent was confiscatory. *City of Knoxville vs. Knoxville Water Co.*, 212 U. S. 1; 53 Law Ed. 371. *Lincoln Gas & Elec. Co. vs. City of Lincoln*, 230 U. S. 255; 64 Law Ed. 968.

It is true that in the last mentioned case it is suggested a return of 6 per cent might be confiscatory in a community where loans were made at 8 per cent and the "legal rate was 7 per cent," but here loans are made on good security at from 6 to 7 per cent, and the "legal rate is 6 per cent." Articles 4974 and 4977, Revised Statutes of Texas, which are as follows:

Art. 4974. "‘Legal Interest’ is that interest which is allowed by law when the parties to a contract have not agreed upon any particular rate of interest." Article 4977: "On all written contract ascertaining the sum payable when no specified rate of interest is agreed upon by the parties to the contract, interest shall be allowed at the rate of 6 per cent per annum from and after the time when the sum is due and payable."

#### **BRIEF OF ARGUMENT IN SUPPORT OF ASSIGNMENTS OF ERROR NUMBERS SIX, SEVEN AND EIGHT.**

(Record pp. 63-64; this Brief . 15-17.)

It is submitted that right at the threshold of this inquiry the plaintiff telephone company is met with the maxims that "he who seeks equity must do equity," and that "he who comes into a court of equity must come with clean hands." The plaintiff company has not shown itself in position to obtain relief from a court of equity for in at least two important matters it has failed to disclose its earnings:

(a) It has failed to show what proportion of the profits resulting from the use jointly of the local property and the toll lines was earned by the local property and should go into its revenues. We have discussed this quite fully in our

Argument in Support of the Second Assignment of Error (This Brief p. 19-36.) to which we refer.

(b) It has made no attempt, except in the most general way, to show the profits derived on account of its relationship with the Western Electric Company. The proof shows that the A. T. & T. Co. is the owner of 99 and a fraction per cent of the stock of the plaintiff company, the Southwestern Bell Telephone Company, which operates the Houston exchange. Also that the A. T. & T. Co. is the owner of the Western Electric Company, which is a manufacturing company engaged in manufacturing telephone equipment and supplies. (Record pp. 707 and 708.) The plaintiffs do not deny this, in fact, admit it, and the master has found that the A. T. & T. Co. owns practically all of the stock of the plaintiff company and the Western Electric Company. (Record p. 44.) This finding is approved by the court. (Record p. 56.) The A. T. & T. Co. in the same manner owns also the "Bell System" (Record p. 322), which does four-fifths of the telephone business in the United States. (Record pp. 681 and 709. The Western Electric Company furnishes the equipment and supplies to this system. (Record p. 705.) From this it will be seen under what difficulties competitors of the Western Electric Company operate. Of course competition is practically stifled. Under these conditions the only effort to make a disclosure of the profits received by the parent company, the real owner of the plaintiff company, vis.: The A. T. & T. Co., in furnishing equipment and supplies to the Houston exchange was the following:

One of the plaintiff's witnesses, Mr. Cox, an employee of the A. T. & T. Co., by whom it is sought to support the A. T. & T. Co. license contract of  $4\frac{1}{2}$  per cent, volunteered on cross-examination, but not in response to any question asked by defendant, that the profit made by the Western Electric Company was 8 per cent, but he furnished no data or expense bills or any other figures to support such conclusion. (Record p. 693.) Aside from this there was nothing other than the incidental and general statements by plaintiff's employees that the supplies and equipment were pur-



chased as cheap or cheaper from the Western Electric Company as they could be purchased elsewhere. Opposed to this slight testimony, the defendant city made proof that the profits realized from the manufacture of certain telephone equipment was enormous (Record pp. 490 and 491), and that competitors of the Western Electric Company, even considering the conditions they are forced to operate under, would furnish switchboards, which constitute a very considerable part of the property used in the telephone service, at a very much lower price than that at which they were purchased at for the local exchange from the Western Electric Company. (Record pp. 713-723.)

It will be remembered that by the Constitution and laws of the State of Texas the power to fix rates of public utility companies in the City of Houston is vested in the Council of the City of Houston. That body primarily has jurisdiction to determine and fix the rates to be charged by public utilities. Its action on such matters is presumed to be correct. *City of Knoxville vs. Knoxville Water Co.*, 212 U. S. 1; 53 Law Ed. 371. And before the jurisdiction of the court is invoked, it should appear that said body has refused to grant relief after a proper showing that relief should be granted. In fact, in what was known as the "Merger Ordinance", introduced in evidence (Record p. 765), it was specially agreed by the plaintiff company in 1915, in consideration of a merger with the Home Telephone Company that the plaintiff company would not increase its rates unless it appeared on a satisfactory showing, to be made before the City Council of the City of Houston, of all receipts and disbursements that a necessity existed for an increase in charges in order that said company might earn a return upon its capital actually invested in the Houston plant. However, in the absence of this agreement it seems obvious that before the plaintiff could invoke the aid of the court, it must have applied to the Council and made such full disclosure of its affairs as would enable the Council to determine whether or not the application for an increase in rates should be granted, and it appearing that the company was using its local property both in earning local revenues

and long distance tolls, a proper disclosure should be made regarding the profits resulting from the long distance service, based upon the property furnished by the local exchange, and that furnished by the long distance lines, and the services performed by both or either, and it appearing that the real owner of the local exchange was also the owner of a manufacturing company which furnished the equipment and supplies to the local company, a full and complete disclosure of the profits realized on such equipment and supplies should have been made. The City Council would be well within its rights in refusing to increase the rate until such disclosures were made, and failing to make such disclosure the plaintiff company, when resorting to a court of equity, would be met with the proposition that it must come with clean hands and it should offer to make such disclosure and should make good such offer before it would have any standing before a court asking to have the power of the rate-making body suspended.

However, the defendant in this case did not rely upon such presumption or upon the proposition that the plaintiff, before it could successfully maintain its application in the courts for an increase in rates, was under the duty of making a disclosure of its dealings with its manufacturing branch, and also a disclosure relating to the results of the joint enterprise in the matter of the long distance toll earnings. It affirmatively undertook to show that in both these matters the company was making additional earnings which it had not credited the local exchange with. Even if the amount of such additional earnings was not definitely established, the defendant having shown that there were such additional earnings, it is obvious that the burden was then upon the plaintiff company to show the amount of same before any determination could be made as to whether or not it was so limited in its earnings by the rate-making body as to amount to confiscation of its property.

The evidence in regard to the long distance tolls is referred to in the argument under the Second Assignment of Error, this Brief page —.

In regard to the relation with the manufacturing branch,

the defendant's witness, Mr. Kelsey, who was shown to have had a great many years' experience not only in the management and operation of telephone companies and exchanges, but also in the manufacture and sale of telephone equipment and supplies, and who is now engaged in manufacturing telephone equipment, testified in regard to the induction coils, transmitters and receivers, which the plaintiffs attempt to value at \$5.50 per set. (Record p. 489.) His testimony upon this matter was as follows:

" \* \* \* Q. You said you manufacture these instruments, there are three of them, for 50 cents apiece, didn't you?

A. Well, this started with this idea that Mr. Wilson advanced—

Q. You are talking about prices now.

A. I am talking about getting down and turning these things through the machine. And you can turn the induction coil through the machine for 40 cents apiece.

Q. The transmitter for 50 cents?

A. Yes.

Q. And this receiver for 50 cents?

A. Yes.

Q. That is, for \$1.50, then adding another 50 cents, which would be thirty-three and one-third per cent to \$1.50, you have \$2.00 for the set of three. You have got 30,000 sets of this exchange here and that is an investment of \$60,000.

A. Well, where you stopped was the misleading factor and you have got some freight and you have got a lot of things coming down here that have to be handled. I think \$2.50 is about right.

Q. You think \$2.50 is about right?

A. Yes. \* \* \* " (Record pp. 490-491.)

He further testified in regard to the manufacture of these coils, that they are manufactured by punch press and punched out by the thousand.

Again Mr. Kelsey testified concerning the Preston and Capitol Exchange equipment, that they were appraised in the Hoag inventory, introduced by the plaintiff (Record p. 713), as \$750,000, without including numerous additional charges, such as contingencies, omissions, engineering expenses, etc. He further testified that other companies could manufacture this equipment for \$600,000 net, including all the items that the plaintiff added to the sum of \$750,000.

(Record p. 715-724.) He further testified that the completed equipment as contained in the said inventory including the additional charges above referred to would run to \$1,027,000, and that the companies other than the Western Electric Company could furnish this equipment for \$600,000, or more than \$400,000 less than the figures of the Western Electric Company included in the inventory. (Record p. 720.) This reduced to percentages would show that the companies other than the Western Electric Company, concerning which Mr. Kelsey testified, would furnish this equipment for 48 per cent less than the Western Electric Company would furnish same. (Record p. 720.) In the face of this testimony, and although the plaintiff was repeatedly asked to furnish the expense bills and show the cost of manufacture by the Western Electric Company and although it had it in its power to do so, it contented itself by mere statements of some of its employees, that is, employees of the A. T. & T. Co. to the effect that the equipment could be purchased from the Western Electric Company as cheap as or cheaper than it could be purchased elsewhere, and with the volunteered statement of an employee of the A. T. & T. Co. that the Western Electric Company made 8 per cent, without any data whatsoever to support such statement. This, we submit, did not, in view of this record and the affirmative proof made by the defendant, amount to a full or reasonable disclosure of the profits that the parent company, the A. T. & T. Co., which is the owner of both the manufacturing branch and the operating company, was indirectly making from the Houston exchange by selling the material and equipment that went into its plant and the supplies used in operating same.

While it has been affirmatively shown that better prices can be obtained from companies other than the Western Electric Company, still if such better prices could not be obtained the plaintiff company, before it can claim confiscation, will be required to show, within reasonable limits at least, the profits it is realizing by the manufacture of material that is included in the capital value in the local exchange and the supplies it is furnishing such exchange for

the purpose of operating same. This is especially true when, as the Record shows (p. 681-709), and it will not be denied, parent company, which, as before stated, owned both the Western Electric Company and the operating company, controls four-fifths of the telephone business of the United States, and the supplies for this four-fifths is exclusively furnished by the Western Electric Company. Other manufacturing companies cannot live in competition with it without incurring overhead expenses that greatly increase manufacturing costs, such competing companies being so limited in the sphere of their operations that they are working at a great disadvantage, and under these conditions, for plaintiff to say it purchases as cheaply from the Western Electric Company as it can elsewhere, is not to meet this issue.

One of plaintiff's witnesses an employee of the A. T. & T. Co., testified as follows:

" \* \* \* Q. Well, not trying to dodge the issue, hasn't it become the condition in this country and still growing more so, that there is one gigantic telephone company that also owns and monopolizes the manufacture of the equipment?

A. To the great advantage of both.

Q. Whether it is to the great advantage of both, that is the condition in America today that the one monopolistic concern controls the operation of telephones and that it also controls almost to a monopolization extent the manufactured articles that go into the enterprises?

A. Well, I think that is substantially correct. \* \* \*

(Record pp. 707 and 708.)

We could enlarge very much upon this proposition, but we think what we have said is sufficient to demonstrate that it is impossible to determine from the showing made what the revenues, both direct and indirect of the plaintiff company in the operation of the Houston exchange, are. The fact is they are in position to even show a large deficit in the operation of the exchange, when, in fact, considering the additional revenues or profits they are making out of the long distance tolls and which they are making, and are in position to make, out of the manufacturing branch, they are realizing great returns. Under the showing made the rate-making body could not determine whether the claim

that the company is losing money is true or not. We respectfully submit that from such showing neither the trial court nor this court can determine the question. The burden was upon the plaintiff to make such a showing as would permit that question to be determined.

The rate-making body should not, when it appears that the real operator, the A. T. & T. Co., is in addition to the local revenues paid by the subscribers to the service also getting other profits from the long distance tolls and also getting certain other profits from the manufacture and sale of material and supplies used both in the construction and in the operation of the plant and paid for by the people of the City of Houston, be required to take the plaintiff's general statements at face value and assume that the company is making no more out of the manufacturing branch than it is entitled to. But the plaintiff, before it could claim confiscation, should make a full and fair disclosure in regard to such dealings, which it has persistently failed and refused to do, notwithstanding the fact, as appears from the testimony above set out, they are realizing more, both from the long distance tolls and from the manufacturing branch to the detriment of the Houston exchange, than they are entitled to receive. This is an imposition upon the people in the City of Houston. The City Council has refused to grant relief while this imposition is being practiced and we respectfully submit that the courts ought not to tie the hands of the council thus rendering it powerless to oppose this imposition.

In this connection we wish to say the defendants throughout the hearing insisted upon a fair showing and disclosure in regard to the long distance tolls and also in regard to the profits of the Western Electric Company realized from the placing of material and equipment in the local exchange.

It appears on pages 700-702 and 713 of this record that the plaintiff was notified that the defendants desired the expense accounts and cost data to show the cost of this material and the profits realized thereon by the Western Electric Company. One request for this information was made on March 9th, 1920. The hearing was not completed until



about the 1st of May, 1920, and yet plaintiffs made no attempt to show their relations with the Western Electric Company or the profits that were being realized by the real owner of the Houston exchange in the manufacture of material, equipment and supplies used in such exchange other than general statements of its employees hereinbefore referred to. No officer of the Western Electric Company was placed upon the stand, though the defendant had no means of requiring their attendance upon the court. The plaintiff could have required their attendance and could also, as the owner of the Western Electric Company, have furnished the data so often requested by the defendants, because all the officers and employees of the Western Electric Company, as well as all the data, were within the control of the A. T. & T. Co., the real plaintiff. The record in this case embraces over 4,500 pages. Over the repeated protest of the defendant, the plaintiffs read into the record much immaterial matter. They caused to come to Houston from great distances many witnesses, nearly all employees of the A. T. & T. Co., to testify in regard to the  $4\frac{1}{2}$  per cent license contract. The testimony of the different witnesses was cumulative upon this point. They placed on the stand five witnesses, who testified at great length in regard to the reproduction cost of the property of the Houston exchange. The testimony of all these witnesses was cumulative. The reading of this record will disclose that a great part of the testimony was immaterial, a great many other parts cumulative of matters not controverted, and yet this plaintiff, although repeatedly requested so to do, entirely failed upon the two important features of the case, viz.: the matter of the long distance tolls and the matter of the profits of the manufacturing branch, to make any disclosure except to say they arbitrarily allowed the Houston exchange 25 per cent of the outgoing tolls and regarding the manufacturing profits, it contented itself with the mere general statements above referred to.

The Master, in his report (Record p. 44), says that for the plaintiff to come into court with clean hands "does not mean that to have clean hands it must produce all evidence avail-

able or possible to be furnished, but only sufficient evidence to demonstrate that its property is being confiscated."

We have never contended that in order to show that it is entitled to equitable relief that plaintiff must have produced "all the evidence available or possible to have been furnished." We readily agree that if it has furnished "sufficient evidence to demonstrate that its property is being confiscated" it is entitled to equitable relief, unless it is by statute, as we will hereinafter attempt to show, made an outlaw, which is barred from a court of equity. For the present, however, that plaintiff failed to furnish sufficient evidence to show that its property is being confiscated, is just the contention we make. It comes into court showing that it is in a position to exact from the Houston exchange enormous profits and revenues by way of indirection, because it owns the manufacturing branch, which places material in the plant at arbitrary prices and also furnishes supplies for the operation of the plant at such prices as it may see fit, and it has not, as we have attempted to demonstrate, shown that it has not taken advantage of this position. Not only that, but its evasion of the issue is such as to convict it of having so taken advantage of its opportunity to impose upon the Houston exchange. In the first place, the relation is one that ought not to exist, because it creates a temptation to impose upon the public. But if such relation is to be tolerated, surely the plaintiff should bring forward the best evidence, or at least evidence that reasonably shows that it has not yielded to the temptation, but that it has dealt fairly with the public, and this duty and burden is not discharged by mere general statements that its own manufacturing branch furnishes the material as cheaply as it could be purchased elsewhere, especially so when competition has been practically destroyed by it and when it has been affirmatively shown, as it was in this case, that the property is being put in by the concern that owns both the operating and manufacturing branches at prices highly inflated. This evidence should be overcome by clear and positive testimony, the best that can be obtained, viz.: the books and data of the Western Electric Company showing the

manufacturing costs and expense bills and all data that would reasonably bear upon the profits realized from the sale of such material to the local exchange.

The court below, referring to the question under discussion, says:

"The scope of the inquiry in this case cannot be extended to the determination of a fair rate of profit to The American Telephone & Telegraph Company on its capital invested, or to such a rate of profit to the Western Electric Company, which is not a public service corporation, but a private corporation engaged in the business of manufacturing telephone apparatus. The problem presented by the relations of such holding and subsidiary corporations are serious ones, which vitally affect the public interest, but they are problems which primarily call for legislative consideration.

"The fact that The American Telephone & Telegraph Company dominates and controls both the plaintiff company and the Western Electric Company, is sufficient to cause the courts to very closely scrutinize any dealings between these corporations whereby any unjust advantage might be taken by the parent company, or the effect of which might be to enable it to receive a larger return than that which forms the basis of the established rate for telephone service to the public. Such corporations, however, are not debarred from entering into contracts with each other, and where such contracts are fair and advantageous to the subordinate corporation, they will be recognized and given effect." (Record p. 57.)

It is respectfully submitted that the honorable trial court has not met our proposition. Its holding seems to be based upon the proposition that the relation here complained of is not prohibited by statute and that being the case they will be recognized and given effect as fair. This again raises the question that this relation is not a fair one, or at least it has not been shown to be, that the presumptions are against it, and that the slight evidence offered by plaintiff, especially when opposed to the affirmative proof offered by the defendant, is such as to clearly indicate an evasion of the issue and that such evasion and want of frankness will deprive the plaintiff of any standing in a court of equity, regardless of whether or not Congress has acted in the matter. It is our understanding that this court will not be bound by the Master's finding, even when ap-

proved by the trial court, but will review the evidence in cases such as this City of Knoxville vs. Knoxville Water Co., 212 U. S. 1.

If the A. T. & T. Co., which, of course, is the real plaintiff in this case, chooses to carry on these different enterprises, such as manufacturing telephone material and equipment and furnishing same to an operating branch of its own business at whatever profit it may see fit to impose, and also sees fit to mix up with its business of furnishing local telephone service to the people of Houston, its long distance toll business and use the local property in earning long distance tolls and, further, to take from the earnings of the local property a part of its earnings under the guise of a so-called  $4\frac{1}{2}$  per cent service contract without undertaking to show the cost of such service, it might, in the absence of statutory regulation, have the right to so conduct its business and different enterprises. This is one thing. Invoking the aid of a court of equity is quite another thing. While it might, if the people will submit to it, pursue the course it is pursuing, working such impositions as it can, it does not follow that courts are going to compel submission by the public to such imposition. While courts are not administrative and do not, of their own motion, reach out to correct business abuses or punish wrong-doers, still it is the pride of our civilization that our courts are clean and a litigant who invokes equitable relief, which, in accordance with our institutions, courts have the power to extend, is required to purge himself before he can even cross the threshold of a court of equity. This plaintiff, one of the mere subsidiaries of the A. T. & T. Co., is, as the proof in this case shows, in connection with the business which is under investigation, conducting other enterprises by some of which additional returns are made and by others of which additional burdens are imposed, and no real attempt is made to enlighten the court concerning the effect that the associated enterprises have, upon the earnings and the expenses of the business under investigation or on the value of the property, and, although the defendant has shown that the property has other returns than that which the plaintiff

credits it with, the plaintiff says: "Oh, that is something we don't want inquired into. We have given what we think is right, and with that the public must be satisfied," and although the defendant has shown that the local business is burdened with expenses of the associated enterprises, the plaintiff says: "Yes, this is true, but we cannot separate the expenses and will, therefore, burden the Houston exchange and the public, who is paying the return upon the property with whatever part we see fit," and although the defendant has shown that the real owners of the Houston exchange also own the Western Electric Company and furnishes most of the supplies and material used in such exchange and charges any price it may see fit for same, which the public has to pay, and in addition purchases for the exchange such material and supplies as it does not itself furnish, charging large commissions therefor, to this the plaintiff answers: "We buy as cheaply from the Western Electric as we can from any other supplier," without making any offer or attempt to show the profits that are realized by the A. T. & T. Co., by having its manufacturing branch manufacture and furnish goods to the exchange, the operating branch, and in this connection it appears that the parent company, the real plaintiff in this case, has so monopolized the telephone business of the entire country that any other supplier is insignificant as compared with the Western Electric Company, which has a monopoly upon all the business of the Bell System, which is owned by the A. T. & T. Co., and which System comprises four-fifths of the telephone industry of the United States. Although the defendant has shown that from the gross earnings of the Houston exchange, 4½ per cent is appropriated by the A. T. & T. Co. under the so-called license contract, which purports to be a contract for certain services, the plaintiff has made no effort to show the cost of this service, but in a very vague and general way claims that it is very advantageous. Do these propositions appeal to a court of equity? If they do, what is the meaning of the maxims: "That he who seeks equity, must do equity," or, "That he who comes into a court of equity, must come with clean hands?" Indirect

hidden profits, lack of frankness and obscured issues form but a poor basis for equitable relief. The plaintiff in this case is not in a position to seek the aid of a court of equity and ask to have the enactments of a law-making body, acting within the scope of its legislative power, set aside and held for naught. It should, in entering the court asking for equitable relief, be required to pursue the same path that other litigants are required to pursue. It has only to free itself from the bewildering maize in which it is now operating and be in position to come into court and make a full and complete disclosure, informing the court of the exact condition of its affairs, which it has in this case fallen far short of doing. Until such time, if it pursues the course it is pursuing, it should be left to work out its own salvation and not receive aid from the court in perpetuating its impositions upon the public.

**RELATIONS SUCH AS EXIST BETWEEN THE PLAINTIFF COMPANY AND THE WESTERN ELECTRIC COMPANY HAVE BEEN DENOUNCED BY CONGRESS.**

It is submitted that the relation existing between the A. T. & T. Co., owner of the plaintiff company, and the Western Electric Company, is an illegal one, and for that reason, if no other, all presumptions are against its dealings being fair. Such relation has been condemned by Congress. (Art. 8835-i, Revised Statutes of the United States.) This article forbids such relationship where the annual sales are in excess of \$50,000, and makes it a criminal offense to furnish supplies in excess of that amount, except on competitive bidding. As heretofore shown, practically all equipment and supplies of the Houston exchange are purchased from the Western Electric Company, and the item for reserve for depreciation alone, exclusive of repairs, is, as found by the court, nearly \$300,000 per annum. It is true that by said article the date when it goes into effect has been postponed for two years and it is our understanding that there has been another postponement of the date when it is to



go into effect. This doubtless is to give great corporations, such as those under consideration, ample time in which to sever their relationship. However, the fact that the date for enforcing the penalty has been postponed in no way changes the fact that the relationship has, by Congress, been denounced as constituting a crime meriting heavy criminal penalties. So, then, this plaintiff stands before the court admitting a relationship which has been by Congress denounced as a crime, but with sentence suspended, and the mere fact that a penalty will not be inflicted upon it is no reason why it should receive affirmative aid from the court in collecting profits which at least might be, and for all the court can tell, are the fruits of a criminal act. The burden is upon the plaintiff, where there is a proper presumption against its innocence, for it is only natural to presume that the criminal relation having been created, it was not idly created, but that it was created for the purpose of profiting thereby. The probability and source of illicit profit in this case is in furnishing equipment and supplies by the manufacturing branch to the operating branch by plaintiff, A. T. & T. Co.

Perhaps we have dwelt upon this matter even to the point of being tedious, but we feel strongly that an imposition is being worked upon the public, not so much by the very considerable matters of taking away the  $4\frac{1}{2}$  per cent, under the guise of a service contract, and in allocating many unnecessary charges in determining the operating expenses of the plant, but, to a very great extent in the matter of the long distance tolls and the manufacturing profits. These indirect profits may rise to such magnitude as to render regulation absolutely nugatory, and it is respectfully submitted that the relief prayed for by the plaintiff, the extraordinary relief of suspending the powers of a co-ordinate branch of government, should not be granted, until by a fair and honest disclosure the plaintiff has shown that it has met with imposition at the hands of such legislative body.

**BRIEF OF ARGUMENT IN SUPPORT OF NINTH  
ASSIGNMENT OF ERROR, RELATING TO  
THE CLAIMED DEFICIT.**

(Record p. 65; this Brief p. 17.)

While upon their face the statements of the appellee's revenues and expenses for the year 1919 show that the cost of operation, including approximately \$300,000 annual reserve for depreciation, exceeds the revenues for that year, it is submitted that even for the year 1919 it was impossible to determine not only whether or not there was a deficit, but whether or not the appellee did, during such year, make a fair return upon its investment. In addition to what we have said in regard to the matter in the discussion of the Second, Sixth, Seventh and Eighth Assignments of Error, we wish to add that this court will take judicial knowledge of the fact that the year 1919 witnessed the peak of high prices, resulting from the World War, and of the further fact that prices have declined since the year 1919 to such an extent that the operation for the year 1919 no longer furnishes any criterion whatever for determining the costs of operation incurred by the appellee in the operation of the Houston exchange at the present time. *Lincoln Gas & E. L. Co. vs. the City of Lincoln*, 230 U. S. 255; 64 Law Ed. 968.

In order that justice may finally be done to the parties, the appellant prays that the judgment of the court below in this case may be reversed and rendered with costs.

SEWALL MYER,  
W. J. HOWARD,  
A. E. AMERMAN,  
Attorneys for Appellants.

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IN THE  
**Supreme Court of the United States.**

OCTOBER TERM, 1921.

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No. 219.

CITY OF HOUSTON,

Appellant,

vs.

SOUTHWESTERN BELL TELEPHONE COMPANY,  
Appellee.

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No. 220.

SOUTHWESTERN BELL TELEPHONE COMPANY,  
Appellant,

vs.

THE CITY OF HOUSTON,

Appellee.

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APPEALS FROM THE DISTRICT COURT OF THE UNITED STATES  
FOR THE SOUTHERN DISTRICT OF TEXAS.

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**BRIEF ON BEHALF OF THE SOUTH-  
WESTERN BELL TELEPHONE  
COMPANY.**

**As Appellee, Case No. 219—Part I.**  
**As Appellant, Case No. 220—PART II.**

**Statement.**

The Southwestern Bell Telephone Company,  
plaintiff in the court below (hereinafter referred

to as the Company) owns and operates a telephone exchange system in the City of Houston, Texas, furnishing local telephone service. The Company also owns and operates similar local exchange systems in many of the important cities and towns in Texas, and in the states of Missouri, Kansas, Arkansas and Oklahoma, and in addition to these exchanges for local service, owns and operates a separate toll system connecting these exchanges, and also connecting with the toll lines and exchanges of other telephone companies. This case involves only the rates for local or exchange telephone service in Houston.

This is a suit in equity for an injunction, instituted by the Company in the District Court of the United States at Houston to enjoin the City from compelling the Company to continue in effect a schedule of rates for local telephone service prescribed by the City by ordinance in 1909, on the ground that the rates are confiscatory.

The rates in question are \$5.00 per month for business or office connections; \$2.00 per month for residence connections; \$3.00 per month for party line service, business or office; \$1.50 per month for party line service, residence.

The ultimate question in this case is whether these rates so prescribed by the City in 1909 are shown by the record to be confiscatory.

The case was referred to a Master on August 25, 1919, who, after an exhaustive hearing, submitted his report to the court on June 5, 1920 (Report of Master, R. I, 29-45). The Master reported his specific findings as to the value of the Houston property of the Company, revenues under the rates complained of, expenses of operation, and fair rate of return, and found that under these rates the Company not only failed to obtain any return

whatever, but in 1919—taken as the test period—it suffered an actual net loss of \$306,204. The trial court, approving the Master's report as to most items but disapproving it and substituting other figures as to certain items, hereinafter considered, found that the Company sustained for the year 1919 a net loss of \$247,434. These figures take no account whatever of any return upon the property. The loss stated is the amount by which expenses exceeded gross revenues.

The trial court entered its decree adjudging the rates confiscatory and the ordinance void, and granting an injunction against their enforcement.

The City appealed from the decree and seeks a reversal.

The Company has filed a cross appeal. The Company assigns and prosecutes error upon certain rulings of the trial court upon exceptions to the report of the Master, as will appear fully hereinafter.

For the convenience of the court we have embodied in this one brief the Company's brief as appellee in answer to that of the City, Part I hereof, and the Company's brief as appellant in support of its own assignments of error, Part II hereof.

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The Master found that the value of the Company's property used and useful in furnishing local telephone service in the City of Houston in 1919, the period to which the inquiry related, was \$6,003,000 (R. I, 38); that a fair rate of return upon the property was 8% per annum (R. I, 43); that the Company's total revenues from the Houston exchange for 1919 under the rates in issue were \$908,258 (R. I, 36); that its total expenses were \$1,214,462 (R. I, 42); that the net loss of operation

to the Company in 1919 under the contested rates was \$306,204 (R. I, 43).

The court found that by virtue of a merger ordinance enacted by the City in 1915 the Company should be held to rates which would yield it a fair return upon "its capital actually invested in the Houston plant", which language of the ordinance the court construed as meaning the cost of the property (R. I, 53). The court did not disturb the Master's finding as to the property's value of \$6,003,000 but found its cost to be \$4,691,567 (R. I, 58).

The court approved the Master's finding of 8% as the fair return (R. I, 58).

The revenues for 1919 from the Houston exchange, the court found, in agreement with the Master, were \$908,258 (R. I, 55).

The expenses for 1919, as found by the Master, the court approved except with respect to the item "reserve for depreciation". As to this item the court approved the Master's finding of 6.33% as the proper annual rate for depreciation, but held that it should be applied to the cost of the property, \$4,691,567, as found by the court, instead of to its value, \$6,003,000, as found by the Master (R. I, 58). So calculated on the cost instead of the value, the court found the amount for annual depreciation to be \$289,380 (R. I, 59). This is \$58,770 less than the amount of \$348,150 found by the Master for this item (R. I, 42). Deducting this \$58,770 from the amount of the expenses as found by the Master, the court found the Houston expenses for 1919 to be \$1,155,692, or that the Company's net loss in Houston in 1919 under the rates complained of was \$247,434 (R. I, 59).

The Master found, in other words, that at a fair



return upon the value of its property in 1919 the Company was entitled to earn \$480,002. That it lacked \$306,204 of earning anything. That its total loss, therefore, from operating at these rates was \$786,206.

The court, computing the fair return at the same rate of 8% but upon the cost of the property, found that the Company was entitled to earn \$371,325. That it lacked \$247,434 of earning anything. That its total loss, therefore, from these rates was \$622,759.

The Master's report and the trial judge's opinion appear in full in the record, Volume I, pages 29-45 and 50-66, respectively.

These are the actual results. The rates complained of are not experimental. They are rates which the City prescribed by ordinance as just and reasonable rates in the year 1909. Thereafter they were continuously in effect until they were increased by the Postmaster General for a short time during government control.

Prior to 1915 there were two companies furnishing telephone service in Houston—the Company and the Houston Home Telephone Company. The two companies and the City agreed upon a plan to eliminate this duplication of service, whereby the Company was to purchase the plant of the Home Company and consolidate the two plants into one. In 1915 the City passed the “merger ordinance” giving the necessary consent. By the terms of this ordinance the 1909 ordinance rates were continued in effect temporarily, but it was provided in effect that these rates should be increased whenever the Company should make a showing to the City Council that an increase was necessary to enable it to earn a fair return upon its investment.

The pertinent provision of this ordinance is subsection (e) of Section 1, as follows:

"The Southwestern Telegraph and Telephone Company agrees that it will not increase rates as at present charged by it for service in the City of Houston, unless it appears upon a satisfactory showing to be made before the City Council of the City of Houston, of all receipts and disbursements, and said showing must, in order to justify or warrant a raise in the rates, reasonably prove that there exists a necessity for an increase of charges in order that said Company may earn a fair return upon *its capital actually invested in the Houston plant*. And it is agreed for a term of five years from this date that a fair return upon said capital and investment is not less than seven nor more than eight per cent." (Italics ours.)

(The full text of the merger ordinance is found in the record, II, pp. 764-7.)

In 1917, pursuant to this provision, the Company made the required showing and filed with the City Council a schedule of reasonable increased rates. Hearings were had but the City Council took no final action. In August, 1918, the Federal Government took over all the properties of the Company and operated them through the Postmaster General. He increased the ordinance rates and, the City attempting to enforce the ordinance rates, the Postmaster General sued out an injunction (*Southwestern Telegraph and Telephone Company vs. City of Houston*, 256 Fed. 690) and charged increased rates under its protection from February 1 to August 1, 1919. The United States returned the properties to the Company on July 31, 1919, and the City promptly thereafter notified the Company that it must return to the schedule of rates pre-

scribed by the ordinance of 1909 (Opinion of the trial court, R. I, 50-1). Thereupon the Company brought this suit.

Since 1909, when the City prescribed these rates as just and reasonable, the cost of rendering telephone service, like the cost of nearly everything else, has enormously increased as the result of conditions brought on by the world war. This is shown by an abundance of testimony and without contradiction in this record, and indeed is a matter of common knowledge. Upon this subject the Master said:

"If the rates for furnishing telephone service are fixed at presumably fair rates, and subsequent to the fixing of such rates the cost of furnishing the service is largely increased, it would naturally occur to the man in the street that some corresponding increase in rates would be necessary to afford a profit. That such increase in the cost of operation has occurred is a matter of common knowledge and is generally recognized with regard to other public utilities, especially the railroads. It applies to every business under present conditions" (R. I, 44-45).

The present plant in Houston has been largely constructed, and reconstructed, since 1909 when these ordinance rates were fixed, during a period of constantly mounting capital costs, so that it is a far more costly plant than that with which the City Council had to deal in 1909 (R. I, 102). In 1919 the plant had grown to  $3\frac{1}{2}$  times its size in 1909. Since 1910 more than  $4\frac{1}{4}$  millions of dollars have been spent on the Houston plant (R. III, p. 1545).

In 1909 the number of telephones in the Company's Houston exchange was 10,630. In 1919 the

number had grown to 26,693 (R. I, 102). It is shown by the record without contradiction (R. III, 1326-7) that the cost per telephone of rendering local telephone service increases as the number of telephones in the exchange increases.

That the value of the service to the subscriber becomes progressively and correspondingly greater as the number of telephones in the exchange increases is obvious.

In the face of these facts the Company has been forced to continue in effect rates that were no more than adequate in 1909. Under these conditions the figures of losses incurred during the last few years, of which those above shown for the year 1919 are but typical (R. II, Ex. 42, p. 961), will occasion little surprise. Exhibit 42 shows net losses at Houston, for the year 1916, \$136,762; for 1917, \$132,281; for 1918, \$201,791, these figures being excess of expenses over revenues, or those amounts less than no return whatever upon the investment.

### **The City's Propositions.**

The City's propositions are these:

1. That the trial court erroneously held that the amount of the Company's investment in the Houston exchange, upon which it was entitled to earn a fair return, was \$4,671,567, because included in that amount was an item of so-called intangible capital in the sum of \$754,000, a part of the amount paid in 1915 for the property of the Houston Home Telephone Company when the two properties were united under the merger ordinance. First assignment of error, page 11; argument thereof, page 18 of City's brief.

2. That 25% of the long distance tolls credited by the Company to the Houston exchange on account of long distance business, and approved by the Master and the trial court as a fair and just amount, was not sufficient, but at least 60% of such tolls should have been credited to the exchange. First, second, and seventh assignments of error, City's brief, pages 11 and 16.

3. That the payment made by the Company to the American Telephone and Telegraph Company (referred to herein as the American Company) under the License Contract between the two companies for services rendered and telephone instruments furnished by the American Company pursuant to the contract,—which received the approval of the Master and the trial court as fair and advantageous to the Company—was not a proper operating expense, solely because of the American Company's large ownership of stock of the Company. Third assignment of error, City's brief, page 12, argued at page 36.

4. That the allowance by the trial court, in approval of the Master's report, of 6.33% as a proper rate for annual depreciation was excessive and should not have been more than 4%. Fourth assignment of error, City's brief, page 13, argued at page 39.

5. That the trial court erred in approving the Master's finding of 8% as the fair rate of return and should not have found a higher rate than 6%. Fifth assignment of error, City's brief, page 14, argued at page 40.

6. That the bill should have been dismissed for want of equity. The City's sixth, seventh and eighth assignments of error, pages 14 to 16 of the City's brief, challenge (a) the adequacy of the credit to the exchange of 25% of the tolls, (b) the legality of the License Contract payment to the American Company, and (c) both the legality and fairness of the dealings between the Company and the Western Electric Company, Inc. (referred to herein as the Western Company).

While these three assignments are grouped together by the City at page 41 of its brief, (a) and (b) above are, respectively, propositions 2 and 3 above, and are separately covered by previous assignments, and separately argued in the City's brief, as already stated. The only new subject matter dealt with in this part of the City's argument, therefore, is that with respect to (c) the Western Electric Company relationship. The City contends that the proof failed to show equity because (1) the amount of the profits of the Western Electric Company is not shown, and (2) its profits are excessive.

7. The City's ninth and last assignment of error is general, alleging that the court erred in adjudging the rates confiscatory, etc. City's brief, page 17, argued at page 56.

In a word, on the questions raised by the City, the case involves these subjects, namely, (1) Amount of property investment; (2) Credit to the exchange in connection with the toll business; (3) The License Contract payment to the American Company; (4) The Amount for Depreciation; (5) The Rate of Return, and (6) Purchase of supplies and certain services from the Western Company.



*Property.* No challenge is made by the City of the amount of the Company's investment in the Houston exchange property upon which the court found the Company entitled to a fair return, except with respect to the item of \$754,000 of so-called "intangible capital"—a part of the price paid in 1915 for the Home Company's property.

*Revenues.* The City does not question the accuracy of the amount of the Company's revenues as found by the trial court, except with respect to the credit to the exchange for services in connection with the toll business.

*Expenses.* It makes no attack upon the amount of the Company's expenses, except with respect to (a) the License Contract payment to the American Company, and (b) the amount for depreciation.

(a) With respect to the License Contract payment, the City claims that \$13,000 is all that should be allowed as an operating expense, one of its witnesses fixing the amount at this figure (City's brief, p. 37). While challenging this payment to the American Company as an improper operating expense, except as to \$13,000, the City does not question the fact that the services and instruments covered by the payment are worth the full amount of it and more, that they are necessary to efficient and economical telephone service, and that they cannot be obtained elsewhere for less than this Company pays for them, but bases its objection solely upon the proposition of law that the American Company's ownership of stock in this Company makes the contract and the payment under it illegal.

(b) With respect to the question of the amount to be charged as an expense for depreciation, the

City challenges the trial court's allowance of a rate of 6.33% and claims that 4% is a proper rate for depreciation (City's brief, pp. 13-14).

We believe it will conduce to clearness of presentation if we take up the City's several propositions and argue them *seriatim* in the order in which they are argued in the City's brief, which is in the numerical order of the assignments of error. We shall accordingly follow this course in the argument, except as regards our first counter-proposition, which is:

Conceding, for argument, every contention of the City with respect to the only issues it presents that affect the local exchange rates in litigation, namely, its claims as to the amount of the investment in the property, the credit to the exchange in connection with the toll business, depreciation, and the License Contract payment to the American Company, the rates in issue are still plainly shown to be confiscatory.

**ARGUMENT—PART I.****Upon the Appeal of the City of Houston  
(Case No. 219).****I.**

**Conceding every claim of the City as to the contested items, the rates are confiscatory.**

The only contested items that have any material bearing on the exchange rates are (1) the amount of the investment in the property, (2) the credit to the exchange of 25% of the toll revenues, (3) the amount of the annual depreciation charge, and (4) the License Contract payment to the American Company in consideration of services rendered and telephone instruments furnished to the Company.

If the City's claims as to all of these items, and its claim that 6% instead of 8% is the fair rate of return, be conceded, the rates are still plainly confiscatory. To demonstrate this proposition we submit four tables, showing, in Table "A", the investment, revenues, expenses and rate of return as found by the trial court, and then in tables "B", "C" and "D" the same items according to the several contentions of the City.

We use the investment as the basis for earnings in each table because more favorable to the City than the value of the property.

TABLE "A".

*Conclusions of Trial Court.*

Investment—Physical Property (R. I, 58).....	\$4,571,567.00
Working Capital (R. I, 58).....	120,000.00
	<hr/>
	\$4,691,567.00
	<hr/>

*Revenues.*

Exchange (At Contested Rates) (R. I, 42 and 55).....	\$764,484.00
Miscellaneous Operating Revenues (R. I, 42 and 55).....	22,472.00
	<hr/>
Total Exchange and Miscellaneous .....	\$786,956.00
25% of Toll Revenues (R. I, 42 and 55).....	121,302.00
	<hr/>
Total Revenue.....	\$908,258.00
	<hr/>

*Expenses.*

Actual expenses as found by the court .....	\$1,214,462.00
Less adjustment made by court through application of depreciation percentage to investment instead of value .....	58,770.00
	<hr/>
Total Expenses.....	\$1,155,692.00
	<hr/>
Loss .....	\$247,434.00
	<hr/>

TABLE "B".

*Based on Trial Court's Conclusion as to Investment and the City's Claims as to Other Contested Items.*

Investment—Physical Property.....	\$4,571,567.00
Working Capital .....	120,000.00
	<hr/>
	\$4,691,567.00
	<hr/>

*Revenues.*

Exchange Miscellaneous .....	\$786,956.00
60% of Toll Revenues (Maximum claimed by City witnesses) Brief pages 11 and 12.....	275,662.00
	<hr/>
Total Revenues as claimed by City..	\$1,062,618.00
	<hr/>

*Expenses.*

Expenses (Exclusive of License Contract and Depreciation) .....	\$822,784.00
*Instrument Service.....	13,000.00
**Amount for Annual Depreciation (4% of \$4,571,567.00).....	182,863.00
	<hr/>
Total Expenses as claimed by City..	\$1,018,647.00
	<hr/>

Net Income .....	\$43,971.00
Return on Investment of \$4,691,567.00	0.9%

\* See City's Brief, page 37, value of instrument service as claimed by one of City's experts.

\*\* See City's Brief, page 14, where 4% is stated as the proper rate for Depreciation Reserve.

TABLE "C".

*Based on City's Claim as to Investment, (that is Deducting the \$754,000 contended as Erroneously Included in Amount Found by Trial Court), and Other Contested Items as claimed by City and set out in Table "B".*

This is identical with Table "B" except that the investment is reduced by \$754,000.00 as claimed by City.

Investment—Physical Property.....	\$3,817,567.00
Working Capital.....	120,000.00
Total .....	<u>\$3,937,567.00</u>

*Revenues.*

Exchange and Miscellaneous.....	\$786,956.00
60% of Toll Revenues.....	275,662.00
Total Revenues as claimed by City.	<u>\$1,062,618.00</u>

*Expenses.*

Expenses (Exclusive of License Contract Payment and Depreciation) .	\$822,784.00
Instrument Service.....	13,000.00
Amount for Depreciation (4% of \$3,817,567) .....	152,703.00
Total Expenses as claimed by City.	<u>\$988,487.00</u>
Net Income.....	<u>\$74,131.00</u>
Return on Investment of \$3,937,567.00	1.88%



TABLE "D".

*Based on City's Extreme Claims as to All Contested Items.*

This is identical with the two preceding tables except that the valuation is reduced to \$3,000,000 with the corresponding adjustment in reserve for depreciation.

<i>*Physical Property Investment—</i>	
Lowest Amount Suggested by	
City—City's Brief, page 14.....	\$3,000,000.00
Working Capital.....	120,000.00
	<hr/>
	\$3,120,000.00
	<hr/>

*Revenues.*

Exchange and Miscellaneous.....	\$786,956.00
60% of Toll Revenues.....	275,662.00
	<hr/>

Total Revenues claimed by City.. \$1,062,618.00

*Expenses.*

Expenses (exclusive of License Con-	
tract Payment and Depreciation	
Reserve) .....	\$822,784.00
Instrument service.....	13,000.00
For Depreciation (4% of \$3,000,000,	
City's brief, page 14).....	120,000.00
	<hr/>

Total Expenses claimed by  
City ..... \$955,784.00

Net Income.....	\$106,834.00
*Return on Investment of \$3,000,000.00	3.56%

\* The lowest valuation claimed by the City is \$3,817,567. First Assignment of error, page 11. The suggestion of \$3,000,000 is contained in the City's eighth exception to the master's report, which is the subject of the Fourth Assignment, but this assignment in no way touches the question of valuation (City's brief, pages 13-14).

These simple calculations dispose of the City's appeal.

Its extreme claim as to the value of the property, or the investment in the property, is \$3,000,000. Although this figure is not open to the City, because no error is assigned that involves it, we have nevertheless used it in table "D" because it is suggested in the eighth exception to the Master's report. City's brief, fourth assignment of error, page 14.

Its extreme claim as to the percentage of toll revenues which should be credited as exchange revenues is 60 per cent. City's brief, second assignment of error, page 12.

The only item included on account of license contract payment is the \$13,000 claimed by the City to be reasonable for the instrument service alone, leaving nothing whatever on account of the many other more important services. Tables "B", "C" and "D" eliminated from the expenses of the exchange every part of that payment except this \$13,000, so that nothing whatever is included on account of the other more important services furnished under this contract.

The City's extreme claim as to reserve for depreciation is 4 per cent. of a \$3,000,000 valuation of the property, or \$120,000. City's brief, fourth assignment of error, pages 13 and 14.

It asserts that 6 per cent. is a fair rate of return. Fifth assignment of error, City's brief, page 14.

Since, therefore, with all these extreme claims of the City allowed, the Company cannot earn under the rates in issue in excess of 3.56 per cent. on even the lowest valuation of only the physical property, or amount of investment in the bare physical prop-

erty, contended for by the City, it cannot be denied that the rates are confiscatory.

It is clear that the decree of the court below must be affirmed. A consideration of the assignments of error in detail leads to the same conclusion.

## II.

### **The Property Investment.**

(The City's First Assignment of Error.)

The facts are not disputed and the question is purely one of law.

The trial court held as a matter of law that the Company is bound under the provisions of the merger ordinance of 1915 to accept the cost of the property in lieu of its value as the amount upon which the fair return is to be computed. The court found the cost to be \$4,517,567 and substituted that amount in place of the fair valuation of \$6,003,000 found by the Master (R. I, 36, 54).

In its first assignment of error the City contends that the court erroneously included an item of \$754,000 of "intangible capital". (This first assignment also deals with the matter of the proper treatment of the exchange property in relation to the toll business but the City does not argue that point in its discussion of this assignment. See City's brief, page 18. That point is dealt with by the City in the argument of its second assignment of error, City's brief page 19. We shall therefore omit it here and discuss it in the next section of this brief. In the assignment as printed on page 11 of the City's brief this item is given as \$700,000, but this

is corrected in the argument of the proposition on page 18 of the brief, where it is correctly stated as \$754,000.)

This item arises out of the Company's purchase in 1915 of the property of its local competitor, the Houston Home Telephone Company, the City having given its consent to the transaction by enacting the merger ordinance, under and in full compliance with which the purchase was made and the two plants consolidated.

Under the Interstate Commerce Act the Company is required to keep its books in compliance with the accounting rules of the Interstate Commerce Commission. This transaction is governed by Section 13 of the "Uniform System of Accounts for Telephone Companies", made effective by order of the Commission on January 1, 1913, which is as follows:

"13. Plant and equipment and other property purchased.—When any property in the form of a going or completed plant is purchased, an appraisal of the property so acquired should be made, and the different constituent elements of the plant (and equipment, if any) or other property acquired should be appraised at their structural value; that is to say, at the estimated cost of replacement or reproduction less depreciation to the then existing conditions through wear and tear, obsolescence and inadequacy. If the actual money value of the consideration given for the plant or other property was at the time of the acquisition in excess of such appraised value, the excess should be charged to Account No. 204, 'Other Intangible Capital', and the appraised values of the constituent elements should be charged to the appropriate fixed capital accounts as hereinafter designated. If the actual money value of the consideration given was not in excess of such appraised value, such

actual money value should be distributed through the said accounts in proportion to the said appraised value of the constituent elements approximate to the respective accounts. Companies should be prepared to furnish the Commission, upon a demand, a full report of the contract of acquisition, the consideration given therefor, the determination of the actual money value of such consideration if other than money, the appraisal, and the amounts charged to the respective accounts for each plant or other such fixed capital purchased". (R. I, 71).

These rules were complied with by the Company in making the entries of this transaction upon its books. (R. I, 71; II, 973-4). The book entries as they were actually made are shown in Plaintiff's Exhibit No. 172 (R. II, 973-4). The item of \$754,000 was the amount required to be charged to I. C. C. Account No. 204 "Other Intangible Capital", and it was so charged.

There is no dispute that this sum of \$754,000 was actually paid by the Company as part of the purchase price. There is no dispute that the amount of it was correctly arrived at, nor that the entries were properly made as required by law. No phase of the *transaction* is called in question by the City upon its appeal. In holding that the Company was bound by the merger ordinance to accept the cost of its total exchange property in Houston as representing the amount of its investment upon which it is entitled to earn a fair return to avoid confiscation, the court sustained the position which the City took in its answer to the Company's bill of complaint, Section (b) of paragraph 29 (R. I., 26-7). But the court held itself bound to include the entire cost, there being no question that it was actually and honestly incurred, and accordingly in-

cluded the entire purchase price of the Home Company's property, regardless of how the items were designated on the books. The City insists upon the exclusion of this three quarters of a million dollars of the actual cost.

The City's position seems to be that it should be excluded because it is a so-called "intangible" item. This position is untenable. It is none the less a part of the capital which the Company has actually invested in the property in Houston. We have no doubt that the very purpose of this provision of the ordinance was to insure to the Company the right to earn a fair return upon the whole of the purchase price and to protect the Company against the very sort of contention the City now urges.

The entire physical property purchased was appraised as required by the accounting rules. In such consolidation there is always, in the very nature of the case, some excess of physical property that has to be taken out and salvaged, for it is the duplication of plant, for one thing, which makes this competitive service expensive and burdensome to the public. The portion of the property purchased which was in duplication of that of the Company then in service has been displaced and salvaged. The amount realized in salvage has been reinvested in plant in Houston. The City does not question the fairness and accuracy of either the appraisal or of the salvage.

What the Company did was to take the amount actually paid for this property; from this it deducted the physical property discarded in connection with the consolidation, deducting on this account the amount at which this specific physical property had been taken onto the books at an appraisal in connection with the consolidation, less



the net salvage on account of it, which went back into the plant (R. I, 70-4; II, 973-4). The physical property which was retained in service, at the appraisal figures, added to the net salvage reinvested in plant represents the "structural value" entry on the books; the price paid less this amount is the item of "intangible capital".

The Interstate Commerce Commission's accounting rules lend no support whatever to the City's contention, but clearly sustain the Company's position. What Section 13 says in effect is that *the entire purchase price shall be treated and recognized as proper capital investment*. For the purpose of proper bookkeeping, and in order that the book entries shall truly reflect the accounting facts, it is provided, in effect, that *the actual investment in such property shall be divided into two parts*, one, tangible capital, representing the "structural value"; the other, which is as much "capital" as the first, called "intangible"—the difference between the price paid and such structural value. Both are capital items, go into the capital account, and are treated alike.

The City denies that the Company is entitled to a return upon the present fair value of its Houston property and says that the Company is estopped to claim more than its cost. (The Company contests this position upon its appeal, which is argued in Part II of this brief hereinafter.) The court has held with the City on this proposition but in doing so has recognized the obligation to allow the entire cost, and when the City goes further and insists upon subtracting this large amount, there being no charge that it was not actually, honestly, and fairly incurred, it takes an untenable position.

### III.

#### **Credit to the Exchange for toll services.**

(The City's First, Second and Seventh Assignments of Error.)

The Company credits to the Houston exchange 25% of its gross receipts from toll messages at Houston to compensate the exchange for its services in connection with the toll business, as hereinafter explained. For the year 1919 this amounted to \$121,302. Both the Master and the trial court found this amount fair and adequate and approved it.

Upon this finding the City assigns error and claims that a larger percent (its extreme claim being 60%) should be credited to the exchange.

#### *The Facts Out of which the Question Arises.*

It is necessary to understand clearly the relation between the Company's two classes of telephone service and property—(1) exchange service and property, and (2) toll service and property. The Company furnishes local or exchange telephone service in the cities and towns by means of its exchange property. It furnishes long distance or toll service between the cities and towns by means of toll property. The toll lines connect not only the Company's own exchanges but also connect with the toll lines and local exchanges of other companies, the so-called "independent" companies in which the Company has no interest. There are several hundred such independent companies in the state of Texas alone (R. I, 108). The Company's toll sys-

tem extends generally throughout the five states in which it does business and also connects with the long distance system of the American company, affording the subscribers of the Houston exchange a nation-wide long distance telephone service.

The exchange system in Houston comprises four central offices, the exchange switchboards therein, the subscribers' lines extending from these switchboards to the subscribers' places of business and residences, the subscribers' telephones, generally referred to as "stations", and the equipment which goes with these several classes of the exchange property. These make up the exchange system for furnishing local telephone service. It functions in the same way and embraces the same property that an exchange system does where there is no connection with any toll system.

The toll system, by means of which long distance communication is furnished between Houston and other cities and towns in Texas and throughout the United States, consists of the toll switchboard in Houston, which is housed in one of the central office buildings of the Houston exchange, the toll lines extending from this toll switchboard to the distant cities and towns and terminating generally in toll switchboards in those cities and towns, together with the miscellaneous toll equipment used in connection therewith.

A portion of the toll property is thus seen to lie within the *area* of the Houston exchange, that is, within the city limits. Such portion is the toll switchboard in Houston, its attendant equipment and that part of the toll lines within the City limits. But this part of the toll property within the area of the Houston exchange is not part of the exchange property, any more than is the toll property outside of Houston. It is

entirely separate and distinct from the exchange. The toll property located within the exchange area is a very minor part of the total toll property employed in furnishing long distance communication to the people of Houston (R. III, 1501). Toll calls go out from Houston to all parts of the country. Outside the city are thousands of miles of poles, copper wires, expensive repeaters and loading coils, etc. In each of the cities and towns with which Houston is thus connected are the toll switchboards and attendant equipment similar to that in Houston.

When long distance telephony originated there was no connection between the exchange system and the toll system. Persons desiring to talk over the long distance lines went to long distance offices which were not connected with the exchanges (R. I, 154), and paid the toll rate in accordance with the established toll tariff.

Improvements which attended the development of the art made it possible and practicable to connect the exchange system with the long distance system so that the subscriber could talk from his exchange telephone to the distant point. The connection between the two systems was through wires called trunks extending from the exchange switchboard to the toll switchboard. The subscriber calling from his own telephone got the operator at the exchange switchboard just as in the case of any local call. Then, instead of a local number, he asked for long distance and was connected with the operator at the toll switchboard, who took his long distance call and put up the long distance connection. Thus it has come about that, in holding a long distance or toll conversation, the subscriber talking over his instrument makes use of exchange facilities as well as toll facilities. One

value of the exchange equipment and service to him is the ability to do this, instead of having to go to a toll office for the purpose, as he would be obliged to do if there were no local exchange, or no connection between the local exchange and the toll system.

This ability of the subscriber to command and have toll service directly over his exchange instrument likewise adds to the efficiency and dispatch of the toll service. But the use of the exchange facilities in connection with a toll call does not change that equipment into toll property. Nor does the use of the toll equipment in connection with the exchange equipment, because it enhances the use and value to the subscriber of the exchange service, change the toll equipment into exchange property.

An exchange rate should not be made to bear the toll expenses or afford a return on toll property. A toll rate should not be made to bear exchange expenses or afford a return on exchange property. But what does the exchange rate cover and what is exchange property; what does the toll rate cover and what is toll property?

The simple way of coming at once to the heart of this whole question and clearing it of all confusion, both with respect to the separation of exchange and toll property and the separation of exchange and toll service, is to determine what service is covered by the exchange rate and what by the toll rate. This is the true basis for classifying the properties which will afford reasonable certainty in the ascertainment of the proper basis of either class of rates.

It is simply the determination of the services for which the respective rates are paid. That ought to be, and in this case is, definitely known.

If we are able to identify each service, we can readily identify the property used in rendering it, as well as the revenues derived from it and the expenses of it.

The original rate structure, adopted when there was no connection between the two services and property, has been retained ever since. The exchange rate covers every use made of the exchange property, and always has. The exchange subscriber, in consideration of the monthly rate he pays for exchange service at Houston, has the same right of access to the operator at the toll board that he has to the operator at the exchange board. If his toll call is completed so that he gets the long distance connection, he is charged for the toll call the regular toll rate. This rate is from the toll switchboard in Houston to the toll switchboard at the distant point, and has always been so. If he does not get the toll connection, no charge is made. In either case, whether the toll call is completed or is not, the exchange rate covers the use of the exchange facilities. The toll rate takes no account of the exchange property or services, and *vice versa*. The two services, property and rates are separate and distinct (R. III, 1317).

The exchange rate covers the entire local service, whether that service be used for a local call alone or for a local call in connection with the toll lines. The service within the exchange is a service furnished by the local exchange to the local subscriber. It is not a service furnished by the local exchange to the toll company. This is why the local subscriber pays for it and why the toll company does not and should not pay for it.

If the exchange rate pays for the service which embraces every use made of the exchange equipment, whether for local calls or in connection with



toll calls, that equipment is necessarily to be treated as wholly exchange property. The fact that it is used in connection with toll property does not make it toll property, any more than the fact that toll property is used in connection with exchange property makes toll property exchange property. They are separate and distinct.

It is upon this basis that the toll and exchange properties were divided in the proof and findings in this case.

As the case involves only the exchange rates, whether they are confiscatory or not is determined by the return they afford upon only the exchange property. Therefore the toll property lying within the exchange area, that is within the City, had to be excluded to arrive at the investment or valuation in this case. Such property was excluded—long distance switchboards, toll underground cables, toll poles, wires and cable boxes, every part of the long distance plant (R. I, 150). The property which the Master valued, and the property of which the court found the cost to arrive at the Company's investment, included no portion of the toll property.

This disposes of the question of the separation of the entire property in Houston as between the two classes of exchange property and toll property.

It leaves for consideration the question of the expenses of operation as between the two services.

Here again, logically, the inquiry becomes: What service with respect to long distance communication is covered by the toll rate and what, if any, by the exchange rate?

The toll rate, we have shown,—and the record shows,—covers and pays for the service from toll

board to toll board (R. I, 152). The exchange rate covers all local exchange service, whether on local calls or on such calls in connection with toll calls.

In connection with the rendition of the toll service, some operating is necessary in order to connect the exchange switchboard with the toll switchboard and to put through the call. There is also some accounting and collecting. It is more economical for the local exchange to perform these toll services than for the toll company to perform them itself.

It is to compensate the exchange for these services that are properly toll and not exchange services, that is for the toll operating and switching between the exchange and the toll lines, sometimes called "originating and terminating the business", and for the exchange's expense in billing and collecting toll accounts, that the credit is given to the exchange of 25 per cent. of the toll revenues (R. I, 110; 132-3; 143).

All service rendered in or by the exchange in effecting such communication, except that just mentioned, is necessarily exchange service, because until the toll connection is made, no toll rate is put in operation, no toll revenue accrues, and the service is in no way dissimilar from the service rendered in any other local call. *It is through making the connection that the exchange is made to perform a function beyond that which it performs in ordinary local calls.* For this service and for the toll operating, billing, collecting and accounting, performed for the toll company the exchange is compensated out of the toll revenues.

The fallacy of the position of the City is the assumption that the exchange rate exists for only local calls. It does not. No more than the ex-

change exists for purely local calls. The exchange rate is for every service rendered by the exchange within the exchange. In long distance communication that includes every service from the subscriber's instrument to the toll board or *vice versa*. What it does not include is what is necessary to make the exchange equipment available in the long distance communication, namely, making the connection on the toll board between the exchange and the toll line and the toll operating.

The City has no power to regulate rates for toll service, which extends outside the City and throughout the state of Texas and throughout the country. If the exchange rates, which the City has power to regulate, do not cover the service between the subscriber's telephone and the toll board in Houston, as the City here contends, then, since the toll rate does not now cover it, the Company is entitled to make an additional charge for that part of the service, either in the form of a separate charge for connection with the toll board or as an addition to the toll rate. In case of an uncompleted toll call this would necessarily be a separate charge; in the case of a completed toll call it would naturally be added to the toll rate. Yet if the Company should attempt to increase its revenues in that way, can there be any doubt that the City would resist it and make the claim that access to the toll board has always been understood to be included in the exchange service, covered by the exchange rate? The City would rightly contend that this has always been the practice at Houston and is the universal practice in telephony in this country.

*The Question Presented.*

This brings us to the question:

Was the allowance of 25 per cent. of the toll revenues sufficient, according to the record, to compensate the exchange for the services performed by it in connection with the toll business?

The Master found that it was, and the court likewise so found (R. I, 36-38; 55).

On page 35 of the City's brief is the statement that one of the Company's witnesses, Mr. Player, testified that the 25 per cent. allowance "is not even enough to take care of the cost of handling it"—referring to the service rendered by the exchange in long distance communication. This statement is a mistake. Mr. Player's testimony on this subject is contained in Volume I, pages 156-7 of the Record. It contains no such statement as that attributed to him.

The Master found, as did the court in approving his report, that the 25 per cent. allowance amounted to an average allowance to the Houston exchange of 14.9 cents per long distance call, and that this amount was greater than the amount allowed for the same services to any one of the eight largest independent exchanges in the state by independent long distance systems with which they connect (R. I, 37).

He found, as did the court, that this allowance to the Houston exchange is larger than the Company pays for the same services to over 300 independent exchanges in Texas with which its long distance lines connect (R. I, 37).

Also, that no one of the four largest independent toll systems in Texas pays to any independent exchange with which it connects more per call for

the same services than under this allowance is credited to the Houston exchange by the Company (R. I, 37).

And further, that the testimony tended to show that the percentage used here is the one customarily approved for the same services by state commissions throughout the country (R. I, 37).

It is the percentage which has been made for the same purpose and to cover the same services by the Missouri Public Service Commission and the Oklahoma Public Service Commission in over 100 cases before those commissions (R. I, 155).

It is the customary percentage used for the purpose by the Company as to all of its local exchanges where the conditions are similar (R. I, 109).

It amounts to an average payment to the Houston exchange of 14.9 cents per long distance call. The average amount per long distance call paid by the Company to 362 independent exchanges owned by independent companies in Texas with which its toll lines connect, for the same services, is 4.13 cents. See Exhibit 48, Testimony of H. B. Copes (R. III, 811) and testimony of H. B. Copes (R. I, 113).

There are between 600 and 700 independent companies in Texas (or individuals operating independent lines) with whose local exchanges the toll lines of Company connect, which for the same services accept as satisfactory the same percentage (R. I, 108; 148).

It was the basis adopted and put into effect with respect to the same services by the Federal Government on taking control of telephone lines during the late war (R. I, 119-20).

No one of the eight largest independent exchanges in Texas receives for these services as

much per call handled from independent long distance lines connected with it, as the Houston exchange receives under the allowance (Exhibit No. 50, R. II, 812; I, 116-17).

No one of the four largest independent long distance systems in Texas pays per call handled for these services to any independent exchange with which it connects—exchanges which those systems do not own—as much as is paid the Houston exchange (Exhibit 49, R. II, 812; see also Testimony of H. B. Copes, R. I. 114-115).

The average amount per call paid for these same services by the four largest independent systems in Texas to independent exchanges with which they connect is 4.2 cents (R. I, 115).

The average amount per call received for these services by eight of the largest independent exchanges from independent companies with which they connect is 7.1 cents (R. I, 116-17).

It thus appears that the percentage is a standard one and of usual adoption. That it is a standard percentage for the purpose is of itself proof of its fairness. It is larger than independent companies in Texas, not under common ownership or control but dealing with each other at arms length, pay each other.

That it is a standard percentage; that it is accepted as satisfactory by between 600 and 700 independent companies in the same state having exchanges with which the toll lines of the Company connect; and that it exceeds the amount paid for the same services by independent companies to each other, affords ample proof, we submit, that it is fully sufficient to cover the expense of the services for which it is paid and is, therefore, fair and just.



Counsel for the City attempt to weaken the force of this testimony by pointing out that the Bell System owns and operates four-fifths of the telephone property in the United States. From this they conclude that "the contracts made with so-called independent companies, as will appear from the foregoing statement, are made where the local exchange is under the disadvantage of having to procure the long distance service upon such terms as the owner of the long distance will grant to them, or failing to accomplish such conditions, foregoing the use of the long distance service" (City's brief, p. 34).

But the argument ignores the facts. The finding of the master and the uncontradicted testimony are that the *independent companies, in which Bell Companies have no interest, universally allow this same percentage to Bell companies with which they connect; the independent companies when dealing with each other make the same allowance; and the Bell companies make the same allowance to the independent companies.*

The City argues that the allowance to the exchange is made inadequate because the toll rates are not regulated by public authority, whereas the exchange rates are, making it profitable to keep down the exchange revenues to make the exchange show inadequate earnings in a rate investigation. There is nothing in the proof to support this suggestion, and it is entirely beside the question. If the allowance is adequate, the motive becomes immaterial. If the allowance is inadequate, a good motive would not save it.

But aside from this, the argument fails. In Texas there is no state commission, it is true, but in every other state save Delaware and Iowa there is

a state commission which regulates both exchange and toll rates. *The testimony shows that 25 per cent. is the customary allowance made by state commissions throughout the country* (R. I, 146; 155-6).

The City's own expert, Lyndon, whose testimony counsel cite and rely upon in their brief, really lends more support than opposition to the adequacy of the 25 per cent. credit. He testified that "it just about meets the cost"—that is, the cost of the services compensated for by it; that he believed "in 1919 it showed a slight profit", though, "as far as he was able to determine", there was "some" loss under it in 1914 and 1918 (R. I, 169).

He testified further upon the point, and it is important to note what he said:

"The Master: If this was an independent company operating this local exchange here in the City of Houston, would it be to their advantage not to connect with the toll lines on that basis?

Mr. Lyndon: On that basis if they had to put an investment into toll apparatus, provide a building, and add the depreciation charges and operation that is true. I mean that on the basis of net returns, the long distance convenience to the public, I think the local exchange would be far better financially if—they conducted as a separate enterprise,—on the basis of 25% only. If that percentage is carried to 30%, I believe, that it would be about even; if carried to 35%, I believe it would show a profit for the local exchange" (R. III, 1134).

In the first place he assumes that the exchange is to carry the investment in the toll property and provide for all depreciation. In our case the toll property investment is not carried by the exchange.

That has all been excluded from the appraisal and valuation (R. I, 150). In our case the depreciation charges on the toll property are also borne by the toll property and are not charged to the exchange (R. II, 985).

In the next place, even upon his assumption, at the 35% rate the exchange would make a profit equal to 5% of the toll revenues.

It is fair to say, therefore, that even upon this testimony of the City's own witness, and if we accept his view of the proper basis of payment, the 25 per cent. payment in this case is ample. This is clearly so because the investment in the toll property plus depreciation, which his assumption makes the exchange carry, and which in our case is excluded from the exchange property, would offset the additional 10 per cent. which he thinks should be allowed.

The only material point is to see that the expenses of the exchange are not enhanced by expenses incurred in performing a non-exchange service, and that, if any such expenses are originally incurred by the exchange, it is made whole on account of them. This test has been met here, according to the findings of the master and the trial court, and the proof overwhelmingly sustains the findings. The City has no right to require more. It has no right to demand that the exchange make a profit, at the expense of the users of the toll service, out of the switching at the toll board, and the billing and collecting, which it does for the toll company.

It is clear that this payment to the exchange for what it does outside the exchange business and in aid of the toll business is adequate and proper, and that the City's claim that there has been a failure

of proof of what the payment from this source should be, and that it is thus impossible to determine whether there is confiscation or not, is without foundation. The finding of the Master, approved by the trial Court, that the amount credited is fair and adequate, is fully sustained by the record.

#### IV.

#### **Payment to the American Telephone and Telegraph Company under the License Contract.**

(The City's Third Assignment of Error.)

In the expenses of operation as found by the master and the trial court there is an item of "payment for services and instruments" (R. I, 42). This payment is under a contract made in 1889 (R. II, 877) and continuously in force since that time, under which the American Company licensed the Company under its patents and undertook to furnish to the Company the instruments (subscribers' telephones), which it uses in its business, and to perform for it various other services relating to all departments of its business. The payment under the contract is measured by a per cent. of the gross revenue and amounted, in the year 1919, to \$43,528,—(R. II, 965; also Exhibit, R. II, 961)—equal to \$1.65 per telephone station for the year.

This contract was approved by both the master and the trial court. They found as follows:

"That plaintiff gets full value from the amount of money paid to the parent company is clearly and decisively shown by the

testimony. \* \* \* I unqualifiedly approve this 4½% payment as an operating charge against the gross income received by the company" (R. I, 41).

"The weight and preponderance of the evidence compel a finding that the 4½% payment made the American Telephone and Telegraph Company is made for valuable and amply sufficient services" (R. I, 44; 59).

*The City's Contention.*

The City does not question the facts. The proposition presented by it is purely one of law, which is stated in its brief as follows:

"Because \* \* \* the American Telephone and Telegraph Company owns 99 and a fraction per cent. of the stock of the plaintiff \* \* \* only the cost of such service should be deducted from the revenues and charged to the expenses of operation, and there was no attempt made by plaintiff to show the cost \* \* \*" (City's brief, p. 12).

The proposition advanced by the City is further defined at pages 38-9 of the brief, as follows:

"However, our contention is that no matter how efficient these services may be or how valuable, it is not a question of efficiency or value, but a question of the cost of furnishing them."

The brief continues, on page 39:

"The A. T. & T. Co. owns 99 and a fraction per cent of the stock in the plaintiff company which operates the Houston exchange. It is to all intents and purposes the owner, for we take it the court is not going to look at the form of this matter and ignore the substance. So then the cost is the only thing that should appear in the operating expenses which are deducted from the revenues."

The City admits that (p. 39) the cost of the services to the American Company would be a proper operating expense of this Company, even though it exceeded the amount of this payment.

No other challenge of the payment is made. *The City does not suggest that the contract should be abrogated and the services dispensed with. It does not question that the services are fully worth to the Company the amount of the payment; that they are of great advantage to the Company; that they are necessary to enable the Company to render efficient and economical telephone service to the public; and that they cannot be obtained anywhere else for less than this payment amounts to.* The City's sole contention is that, because the American Company owns the stock of the Southwestern Company, it should render the services at cost, and as the Southwestern Company did not show what the cost to the American Company was, there was a failure of proof essential to the cause of action.

At the time this contract was negotiated, thirty-three years ago, the American Company owned no stock in the Southwestern Company. It acquired its first stock interest in connection with making the contract (R. II, 877). Later, from time to time, it added to its stock holdings. In 1895 it owned 30% of the stock (R. II, 877), not until 1902 did it acquire a controlling interest (R. I, 422), and it continued thereafter to acquire the stock until at the time of the trial it was the owner of practically all of it.

The sole proposition presented by the assignment of error is that in some way the fact that the American Company became the owner of substantially all of its stock changed the relations of the parties under this contract, and that thereupon the Ameri-



can Company became bound to furnish these services at cost, instead of at the contract price. The City claims that the evidence shows that upon this basis \$13,000 would be a fair allowance for the instrument service alone (City's brief, p. 37) and denies that any further allowance should be made on account of the contract, solely upon the ground that the Company failed to show what was the cost to the American Company of furnishing the other services. We remark, in passing, that with respect to the instrument services alone, which the City values at \$13,000, the proof shows that it would cost the Company to furnish them for itself approximately \$28,000 a year (Exhibit 147, R. II, 939-40; Exhibit 121, R. II, 822; R. I, 278-80).

To sustain their contention we submit that counsel must successfully maintain either (1) that the acquisition of substantially all of the stock of the Southwestern Company operated to merge the two corporations, so that they were no longer separate legal entities and so that the entire expenses of the Houston exchange, including those in question, became the expenses of the American Company in fact, or (2) that when the American Company became the holder of substantially all of the stock there arose a new obligation upon its part as a stockholder, namely, the obligation to render the services to the Company without charge. Neither of these propositions can be successfully maintained.

#### *The Company's Contention.*

*The Company's position is that, as the two corporations are separate legal entities, they may lawfully enter into contracts with each other, and the fact that one of them owns practically all of the*

*stock of the other in no way impairs this right under the law: and that there are no facts present in this case which take it out of this general rule.*

The law applicable to the questions presented, has been many times announced by this court and is well settled.

*Pullman's Palace Car Co. v. Missouri Pacific Railroad Co.*, 115 U. S. 587, at pages 596 and 597.

*Porter v. Pittsburgh Bessemer Steel Co.*, 120 U. S. 649, at page 670.

*Leavenworth County Commissioners v. Chicago, Rock Island and Pacific Railway Co.*, 134 U. S. 688, at page 707.

*Humphreys v. McKissock*, 140 U. S. 304, at page 312.

*United Lines Telegraph Company v. Boston Safe Deposit & Trust Co.*, 147 U. S. 431, at page 447.

*Conley v. Mathieson Alkali Works*, 190 U. S. 409, at page 409.

*Peterson v. Chicago, Rock Island and Pacific Railway Co.*, 205 U. S. 364, at pages 390 and 391.

*Interstate Commerce Commission v. Stickney*, 215 U. S. 98, at page 108.

*Chicago, Milwaukee and St. Paul Railway Co. v. Minneapolis Civic and Commerce Association*, 247 U. S. 490.

*United States v. Strang*, 254 U. S. 491.

We cite also the cases in this court which arose under the Commodity Clause of the Hepburn Act:

*United States v. Delaware & Hudson Co.*, 213 U. S. 366, at page 413.

*United States v. Lehigh Valley R. R. Co.*, 220 U. S. 257, at page 273.

*United States v. Delaware, Lackawanna & Western R. R. Co.*, 238 U. S. 516, at pages 526, 527 and 528.

*United States v. Reading Co.*, 253 U. S. 26, at pages 62 and 63.

*United States v. Lehigh Valley R. R. Co.*, 254 U. S. 255, at pages 255 and 256.

The law of these cases is that the ownership by one corporation of a majority or all of the stock of another corporation does not operate to merge the corporate identity of the latter into the former. The two corporations are fully competent to contract with each other.

It is true that to correct or prevent a wrong courts have announced seeming exceptions to the rule, broadly stated as (1) that the separate corporate existence will be viewed as a legal fiction and disregarded when necessary under such conditions to remedy some wrong, and (2) that under such conditions it may be disregarded where a corporation is so organized and controlled and its affairs are so conducted as to make it merely an agency, instrumentality or department of the stockholding corporation. These seeming exceptions are not in fact exceptions. What the court does is not in either case to hold that the corporations are identical, but to hold that for the purpose of correcting some wrong it will treat them as if they were identical. The instant case comes within the rule, not within these seeming exceptions. Here there is no suggestion of any wrong. The two corporations have separate businesses, they conduct them independently under the direction and control of their separate boards of directors and officers. The stockholding corporation has not assumed actual control, direction or management of the other. The latter has not become to all intents and purposes a mere de-

partment or instrumentality of the former. Their dealings with each other have been, in fact, fair, so that they commended themselves to the master and the court below, and the City does not challenge these findings.

In the late case of *United States v. Strang, supra*, the question was whether an agent of the United States Shipping Board Emergency Fleet Corporation, all of whose stock was owned by the United States and which, under the direction of the President, had and exercised a specified portion of the power and authority with respect to ships granted to him by the Congress, was an agent of the United States. The court held:

"Notwithstanding all of its stock (the Emergency Fleet Corporation stock) was owned by the United States, it must be regarded as a separate entity."

In *Peterson v. Chicago, Rock Island and Pacific Railway Co., supra*, the court said:

"It is true that the Pacific Company practically owns the controlling stock in the Gulf Company, and that both companies constitute elements of the Rock Island System. But the holding of the majority interest in the stock does not mean the control of the active officers and agents of the local company doing business in Texas. That fact gave the Pacific Company the power to control the road by the election of the directors of the Gulf Company, who could in turn elect officers or remove them from the places already held; but this power does not make it the company transacting the local business.

This record discloses that the officers and agents of the Gulf Company control its management. The fact that the Pacific Company owns the controlling amounts of the stock of the Gulf Company and has thus the power to

change the management does not give it present control of the corporate property and business."

In the *Pullman* case, *supra*, the court said:

"The Missouri Pacific Company had bought the stock of the St. Louis, Iron Mountain and Southern Company, and has effected a satisfactory election of directors, but this is all. It has all the advantages of a control of the road, but that is not in law the control itself. Practically it may control the company, but the company alone controls its road. In a sense, the stockholders of a corporation own its property, but they are not the managers of its business or in the immediate control of its affairs. Ordinarily they elect the governing body of the corporation, and that body controls its property. Such is the case here. The Missouri Pacific Company owns enough of the stock of the St. Louis, Iron Mountain and Southern to control the election of directors, and this it has done. The directors now control the road through their own agents and executive officers, and these agents and officers are in no way under the direction of the Missouri Pacific Company. If they or the directors act contrary to the wishes of the Missouri Pacific Company, that company has no power to prevent it, except by the election, at the proper time and in the proper way, of other directors, or by some judicial proceeding for the protection of its interest as a stockholder. Its rights and its powers are those of a stockholder only. It is not the corporation, in the sense of that term as applied to the management of the corporate business or the control of the corporate property."

The same doctrine is announced by this court in the *Porter* case, *supra*, in the following language:

"The mere fact that Crawford owned a majority of the stock did not give him a legal

control of the company; nor from such ownership can the legal inference be drawn that he dominated the board of directors."

In contrast with this case is that of *Chicago, Milwaukee and St. Paul Railway Company v. Minneapolis Civic and Commerce Association*, *supra*, in which this court held that the separate corporate identity of the switching company, whose stock was owned by two other railroad companies, would be disregarded. In that case the stock ownership was resorted to "not for the purpose of participating in the affairs of a corporation in the normal and usual manner, but for the purpose, as in this case, of controlling a subsidiary corporation so that it may be used as a mere agency or instrumentality of the owning company or companies." Through the instrumentality of the switching company the railroads were unlawfully collecting an extra charge from the public for rendering by indirection a service which as common carriers they were legally required to render without such charge under the conditions of operation which prevailed at Minneapolis. Not only was this the purpose in the accomplishment of which the stock control was exercised, but in order to accomplish it the stockholding corporations had caused a contract to be entered into which took away from the board of directors of the switching company the normal legal control of its affairs in several most important respects, as pointed out and enumerated in the court's opinion.

None of the exceptional elements referred to by this court in that case are present here.

This Company was incorporated in 1882 under the laws of Missouri.

The American Bell Telephone Company (prede-



cessor of the American Telephone and Telegraph Company) was incorporated in 1880 under the laws of Massachusetts. The American Telephone and Telegraph Company, herein called the American Company, was incorporated in 1885 under the laws of New York.

This Company and the American Company are therefore distinct legal entities. They are and always have been engaged in separate and independent businesses.

This Company operates telephone exchanges for local service in the cities and towns throughout five southwestern states and a toll system connecting the exchanges throughout the same territory, and owns all of the property devoted to these services.

The American Company, on the other hand, does not and never has owned or operated any telephone exchanges (R. I, 222). It owns and operates a long distance system extending over the larger part of the United States, furnishing long distance telephone service that is supplementary to the toll service furnished by this Company and by other so-called Associated Companies of the Bell System in the different sections of the country. The American Company does no telephone business in Texas (R. II, 736).

It appears, therefore, that the property and businesses of the two companies are separate and distinct, and separately owned and operated. They are independently managed, each by its own board of directors and officers.

The circumstances under which the American Company acquired the stock of the Southwestern Company have already been stated.

These are the undisputed facts.

They negative the idea that the Company is merely an instrumentality of the American Company. They negative the idea that the American

Company is attempting to accomplish any wrong, either through the Company or otherwise. These companies are separate entities, performing separate functions. When the court looks beyond their separate legal identity it sees nothing that is illegal or inequitable.

The record shows that the American Company has an identical contract with each of the "Associated companies" of the Bell System. One of these companies is the Southern New England Telephone Company. When the contract was made with it the American Company owned forty-three shares, an insignificant part, of its stock (R. I, 422). It now owns 33% (R. I, 421). Another is the Cincinnati and Suburban Bell Telephone Company of whose stock the American Company owns approximately 30% (R. I, 389). If identity could be argued in the instant case from these relations, it could be argued with like force in these other two cases, where the holding is a minority holding.

This license contract is the basis of the organization that permits the subscribers of the Company and of the Southern New England Company and Cincinnati Company to talk to each other. It is the basis which permits the development of their telephone business along common lines. It is the basis which affords to each one of them all that is new and good in the art. The relationship to each so far as the American Company is concerned, is identical. If one of these companies is an instrumentality of the American Company then each of them is an instrumentality of the American Company. The stock ownership does not determine the question of separate identity, but is something that is entirely independent of it.

The authorities demonstrate that the fact that the American Company is the owner of all of the stock of the Southwestern Company does not in

law merge the two corporate entities; they are separate corporations. Counsel do not in terms deny this. Their contention, therefore, must rest upon the legal proposition that there is an obligation on the part of a stockholder who is a sole stockholder to furnish services to the corporation without charge for them. Putting it concretely, their proposition must be that this contract, admittedly valid when made; admittedly valid when the American Company acquired additional stock, and admittedly valid as it continued to acquire additional stock, was abrogated by the fact that the American Company became the controlling stockholder, or practically the sole stockholder. This is novel doctrine as to the rights and obligations of stockholders. The American Company, because it has invested its capital in this public enterprise by purchasing the stock of the corporation which owns and conducts it, is to be penalized in this way. Counsel say that the American Company gets dividends on the stock (though not any from Houston) and therefore must be denied any profit from the contract. But this confuses the two relationships; the dividends are the reward of capital invested, and have nothing to do with services rendered.

It being established that the corporations are separate legal entities, and that no facts are present here which can operate to impair their right to contract as such, there can be no doubt that, there being no charge of bad faith or improvidence, whether this contract should be continued or not is solely a question for the management.

*Chesapeake & Potomac Telephone Company v. Manning*, 186 U. S. 238.

*Interstate Commerce Commission v. Chicago, Great Western Ry. Co.*, 209 U. S. 108.

*Southern Pacific Co. v. Interstate Commerce Commission*, 219 U. S. 433.

*Northern Pacific Ry. Co. v. State of North Dakota*, 236 U. S. 585.

*Great Northern Ry. Co. v. State of Minnesota ex rel. Railroad and Warehouse Commission*, 238 U. S. 340.

*Chicago, Milwaukee and St. Paul Ry. Co. v. State of Wisconsin*, 238 U. S. 491.

This disposes of the assignment of error and we might dismiss it here without further discussion. But as the continuance of this contract is of the utmost importance to this Company, as it is also to all of the operating companies of the Bell System throughout the United States, their business being founded upon it and their entire organization, methods and equipment shaped in conformity to it and in reliance upon its continuance, we feel constrained to set forth the character and importance of these services in somewhat greater detail, in order that there may be no possible inference that we are standing upon a technical position, as well as in order that there may be no doubt in the minds of the court concerning the fairness and value of the contract to this Company. It is not too much to say that it is largely due to the operation of this contract from the inception of telephony that the art has developed to its present high state and that the industry in this country has always stood preeminent, far in advance of any other country in the world. The importance of this subject to the public, no less than to the industry, justifies this further detailed consideration, if the contract needs any further defense than the matters already set forth in the preceding pages.

### **Origin and Development of the License Contract.**

The American Bell Telephone Company, predecessor of the American Company, acquired from Alexander Graham Bell, the discoverer and inventor of the telephone, his original letters-patent of the United States, No. 174,465, granted March 7, 1876, and No. 186,787, granted January 30, 1877 (R. II, 881), which mark the beginning of telephony.

From the beginning the American Bell Telephone Company followed the plan of granting licenses to others to use the company's instruments in designated territories under a "License Contract". It did not itself engage in the business of furnishing telephone service but left that field to those who sought and obtained territorial licenses.

The telephone instrument acquired from Professor Bell would now be considered very crude. His great contribution was the scientific conception. Before a practical telephone could be offered to the public both the telephone instrument and auxiliary apparatus had to be created. Practically the entire art had to be created (R. I, 208; 214; 270).

A practical telephone instrument was early developed by the parent company, and there followed a ready demand for territorial license contracts. At least as early as 1885 the state of Texas had been covered under a license contract entered into with a company known as the "Erie Company", and it was already operating under this license in that state in that year (R. II, 876-7).

In 1889 The Southwestern Telegraph and Telephone Company took over the rights of the Erie Company in Texas. On July 27, 1889, the li-

cense contract between The Southwestern Telegraph and Telephone Company and the American Bell Telephone Company was entered into (R. II, 877). This contract is found in Exhibit 146 (R. II, 876-901).

While there have been many modifications, in broad essentials this original contract defines the relationship that has existed between the two companies ever since.

The parent company pursued the same business policy throughout the United States and used the same form of license contract. Such contracts were early entered into generally throughout the country. In this way what came to be familiarly known as the "Bell Telephone System" was formed, comprising the American Company, commonly known as the parent company, and the several licensee companies, the operating companies, which have come to be known and are generally referred to in this record as the "Associated Companies" of the Bell System, of which this Company is one (R. I, 205-6).

The business at the outset was comparatively simple and crude. "Switchboards" and "centrals" were unheard of. There were no call bells, signaling the party called to the telephone. In fact almost none of the thousands of parts that now constitute the equipment of a telephone plant were then in existence (R. I, 208).

The American Company applied itself from the start to the development of the science and art.

It developed the switchboard, which displaced the private lines and made possible a community service through central offices.

Then, one after another, the American Company developed or acquired and patented, whenever pat-



entable, improved transmitters, hard drawn copper wire, the common battery system, fine wire cable, loading coils, repeaters, etc. (R. I, 271-2; 215; etc.). These are merely a few typical examples.

Under the license contract the Associated Companies had the right to use all these patents and improvements within their territories. This has been true as to all patents and improvements ever since and applies to the 5,000 patents owned or controlled by the American Company to-day, covering nearly everything in the telephone art. The payment to the American Company under the license contract has always been the consideration for these rights.

The Associated Companies required the expert advice and assistance of the American Company's staff in order to utilize these improvements and inventions, and the staff grew rapidly in numbers and in specialization in order to meet the demands made upon it by the Associated Companies (R. I, 208-9).

The original line of separation of functions has continued. The American Company devotes itself to the development and research, specialized engineering, specialization in every phase of the industry; the Associated Companies to operation. The parent company has never engaged in the exchange business, though it has, as stated, for a long time owned and operated a long distance system throughout the country, *supplementing* the toll systems of the Associated Companies.

If there were nothing else of value to this Company and the public under the License Contract but the services now being rendered and actually utilized in the conduct of its business today the payment would be more than justified. But no doubt the greatest single feature of the contract

is the undertaking by the American Company that it will continuously prosecute the work of improving the art and science through development and research and will make available to the licensee company the results of that work, both as represented by all patents that the American Company develops or acquires, as well as all methods, systems, etc., that it develops (R. I, 208-10; 408-9, and much other testimony).

The license contract has been modified from time to time dating almost from its inception, although, as stated, it has retained its original fundamental character.

*Every change in the contract from first to last has been in the direction of larger benefits to the Associated Company and smaller payments to the American Company* (R. II, 877; I, 335). This appears here without dispute.

In the matter of the payment to the American Company, originally this was for the right to use (they have never been sold) a set of instruments. The original payment was \$14.00 per set per annum (R. II, 877; I, 335). Later it was modified so that the sum varied according to the amount charged the patron, which had been made to vary according to the class of service.

In 1902 the basis of the payment was changed. A percentage of the exchange revenue, with certain minor exclusions, was taken as the basis. This was fixed by agreement at  $4\frac{1}{2}\%$  of such revenue. *This change constituted a further considerable reduction in the amount of the payment* (R. II, 877; I, 335). The payment today remains at  $4\frac{1}{2}\%$  of the exchange revenue of the licensee, with certain minor exclusions. In this case it amounted, in 1919, to the sum of \$43,528, or \$1.65

a year, or less than 14 cents a month per telephone.

Under the license contract today the American Company provides for the Company at Houston, the following:

- (a) Telephone transmitters and receivers, with induction coils, including a surplus supply to cover current demands;
- (b) Rights under all patents owned or controlled by the American Telephone and Telegraph Company covering the use of telephonic devices, apparatus, methods and systems;
- (c) The right to use all standardized new and improved apparatus and methods developed through research and experimental work;
- (d) A guarantee of freedom from royalties, damages and expenses, on account of patents, arising out of recommended uses of apparatus, methods and systems;
- (e) An organization to prosecute continuously the fundamental work of research and investigation to the end that safety, economy and efficiency in the business may be promoted;
- (f) Advice and assistance in general engineering, plant, traffic, operating, commercial, accounting, patent, legal, administrative, and other matters involved in the efficient, economical and successful conduct of the business;
- (g) Advice and assistance in the financing necessary in order to develop and enlarge its plant;
- (h) Assistance, co-operation and support in promoting the health and welfare of employees, including the Plan for Employees' Pensions, Disability

Benefits and Death Benefits, with a provision for guaranteeing the integrity of the funds provided by the associated companies for this purpose.

(i) The right to extend to its connecting companies, for the general betterment of the service, the benefits of such engineering and other technical advice and information as the licensee may have received from the American Telephone and Telegraph Company.

*This relationship under the license contract involves no duplication of functions* (R. I, 208-9; 280-1; 345; 371; 393; 395; 398-9; 417; and other testimony). This Company is an operating company purely, while the business of the American Company now under consideration is not a public utility business at all. It is that which it engages in as the owner and licensor of telephone and related patents, as consulting telephone engineers, as a company engaged in scientific research and development in telephony, etc.

### **Instrument Service.**

This includes, as already explained, furnishing to the Associated Companies the vital parts of the telephone instruments—the receivers, transmitters and induction coils, the repair of the instruments, and their replacement when outworn or a better type is developed.

The advantages of this service to the Associated Companies are: (1) telephone instruments of the best class; (2) an adequate supply of such instruments at all times, including emergency requirements, with no temptation, for the sake of economy, to keep them in use longer than is consistent with the best service; (3) standardization of instru-

ments (R. I, 338-9). Without this standardization, a universal telephone service is not possible. Nor can there be an efficient service.

In 1919 it would have cost the Company \$25,540 to duplicate for itself the instrument service of the American Company, or approximately two-thirds of the total contract payment (R. I, 340).

### **Patents.**

From the date of Dr. Bell's discovery until today the entire telephone art has been covered by patents. As a part of its patent service the American Company has not only extended to the Associated Companies rights under its own inventions but has acquired for their use rights under all other patents which were essential to the economical and efficient development of the art. What it has undertaken to do is to provide an absolutely free field for the development of the art along the soundest and best lines (R. I, 269-76). The record shows some 5,000 or 6,000 patents of this class (R. I, 269, 354).

### **Research and Development.**

For the benefit of the Associated Companies the American Company maintains a department (of which Brig. General John J. Carty, a Vice President of the American Company, is the head), made up of a large staff of highly trained, specialized experts, exclusively engaged in the search for what is best in the telephone art, a service unapproached by any other organization in the world.

The discoveries of these experts in every branch of the science, the improvements they bring about in the way of any device, apparatus, equipment or method, are directly available to the Associated

Companies. This staff is subdivided into an executive staff, a legal staff, an engineering staff, a financial staff, and an accounting staff.

The engineering staff, alone, comprises 550 persons, of whom 275 are expert engineers (R. I, 207-219). Its achievements range from wireless telephony to the prevention of cable trouble by insects; from developing a cheaper cable sheath, more usable and durable cords for switchboard connections, to problems in induction and electrolysis, etc. (R. I, 220 and following; 336, 348).

The development by the engineering staff of hard drawn copper wire to take the place of iron wire has made possible the expansion of the business into a system (R. I, 255-6).

Cable development is another great result of the work of the engineering staff. Its work in this development covers a period of thirty years. An early cable contained 50 wires, insulated in rubber—an unsatisfactory insulation. By 1892, it was possible to put 200 wires, or 100 pairs, in a sheath. By 1895, it was 300 wires. In 1896, 400 wires. In 1900 and 1901 it was 600 and 800. In 1902, 1,200. In 1912, 1,800. And in 1914, by the use of No. 24 gauge wire it had reached 2,400 wires (R. I, 227-8).

By the use of this latest type of cable, it was possible in 1914 to place in one duct of underground conduit as many wires as the 1888 type of cable would have required twenty-four ducts to accommodate (R. I, 229).

There have been 66 different types of transmitters standard at one time or another and furnished to the Associated Companies, but which through development are now obsolete and supplanted by a better type (R. I, 275).

These are merely illustrative things that the American Company has placed at the use of the Associated Companies under the license contract.



### **General Advice and Assistance.**

Under this service the Associated Companies receive advice and assistance as to general engineering of plant, traffic, operating, commercial, accounting, patent, legal, administrative and other matters relating to the successful conduct of their business. This service is constant and of great volume. It is specific as to particular matters, by conferences, correspondence, and field work, as well as general through bulletins, circulars and periodical publications (R. I, 205-210; 222; 336; 370).

### **Financial Services.**

These cover advice and assistance in financing, aid in obtaining funds on fair terms for new construction and other expenditures, as well as direct loans from the American Company; and active assistance in marketing the Company's securities, with such other necessary financial support and assistance as will tend to serve the best interests of the Company (R. I, 440-450; 370).

On one transaction alone, involving the sale of notes owned by this Company, the American Company saved it \$38,000 (R. I, 441-2).

### **Accounting Services.**

These include accounting standardization; periodical auditing; expert advice on accounting methods, and all sorts of statistical advice (R. I, 336).

### **The Services are Necessary for the Efficient Conduct of the Company's Business.**

A mere recital of the nature of the services renders this not debatable.

**The Value of Only a Few Easily Evaluated Services is Several Times the Total Payment.**

The proof is specific here.

Statement of the *annual savings* through a few evaluated services:

Instrument service .....	\$25,540
Fine wire and cable.....	104,000
Saving in ducts due to improvements in cable .....	17,000
New alloy for cable sheaths.....	2,200
Improvements in switchboard cords.....	14,100
<b>Total .....</b>	<b>\$162,840</b>

If the savings on account of instruments be deducted from the total payment and from the total savings, there remains a balance of the payment amounting to \$17,988 on account of all the other services covered by this contract, four of which are evaluated at \$137,300 (Exhibit 152, R. II, 941; I, 353-4). These figures are significant but their chief significance is in what is omitted. It is impossible to evaluate the benefits of universal service, the benefits that are derived from patents, the benefits that come from the assurance that whatever there is good and new in the art shall be available to this Company, the benefits that come from efficient and standardized operating methods, the financial benefits, the benefits that arise out of mistakes that have not been made, with the elimination of an experience account. These are the big things that find their ultimate expression in the recognized pre-eminence of the telephone service of the United States, both as respects its quality and

universality, and as respects what it costs the public.

The license payment of this Company for the year 1919 amounted to \$1.65 per telephone station per annum. Of this amount Mr. Pennell testified \$1.10 per station would be required by the Company to cover the instruments alone, leaving 55 cents per station to pay for all the other services (see also the testimony of Mr. Rhodes, Plaintiff's Exhibit 121, R. II, 821, and R. I, 280).

The mere enumeration of these other services is sufficient to convince any reasonable mind that they are worth more to the Company than 55 cents per station a year. Fifty-five cents a year amounts to 4.6 cents per month per station, and is an amount so small that its effects could not be reflected in any rate schedule. A subscriber could not tell whether he had paid the charge or not.

Mr. Pennell, this Company's Chief Engineer, testified that if it undertook to do for itself the work that is done for it by the American Company under the license contract, it would cost the Company more than the amount of the payment (R. I, 388); and that the payment "saves us (the Company) far more than we ever put into it" (R. I, 360-370); also, that there is no other way than through the license contract that the Company can obtain the services for its Houston exchange, because there is no "other body of men in existence in the world that could render that service" (R. I, 371).

Mr. Blair-Smith, Comptroller of the American Company, testified with respect to the financial services alone that there could be "no doubt whatever that it has been most advantageous to the Southwestern Company" (R. I, 452).

Mr. McBurney, Assistant General Manager of the

Cincinnati Company, in which the American Company has a minority holding of 30%, testified that the contract is "very advantageous" to the Cincinnati Company, that "it is worth more than we pay for it," and is "indispensable, because the services we obtain from the American Telephone and Telegraph Company cannot be obtained from any other source" (R. I, 393).

Mr. McBurney further testified that if his company did not have the contract with the American Company he would "most emphatically" consider it a sound business proposition to enter into it, and that the executives of his company, as a whole, consider it "very valuable" and know that they are getting their money's worth (R. I, 394, 411).

Mr. Moran, President of the Southern New England Telephone Company, in which the American Company has a minority holding of 33%, testified that his company continues the license contract with the American Company because it considers the arrangement of very substantial value to it, and further that if the company did not have the contract he would consider it advisable and advantageous to make it (R. I, 415). He testified further that this arrangement has been in effect for about 40 years, and that throughout its history it has worked to the entire satisfaction of his company, and that his company has considered its interests best served by the continuance of the contract (R. I, 420).

The proof is overwhelming that the services received by the Company in return for the payment are worth many times what it pays for them. This fact alone is sufficient to negative any possible contention that its officers have practiced any abuse of discretion in continuing the contract in force.

**The Services Cannot be Obtained Otherwise by this Company for Less than is Paid for Them Under the Contract.**

The record is again clear here.

Mr. Rhodes, Engineer of the American Company, testified that he did not know of any other concern or organization anywhere that could furnish the services at all (R. I, 280-1).

Mr. Blair-Smith's testimony is to the same effect. He testified "my opinion is that the Southwestern Company could not get such an arrangement with any other company in the world; the benefits to the Southwestern Company are far greater than the outlay and the cost to it" (R. I, 465).

Mr. McBurney testified his company could not perform the services for itself even if it had the money to prepare for them; and if it had the money and capital to render the services for itself it could not get the advantage of the accumulated experience of the Bell System (R. I, 395).

Mr. Pennell, the Company's Chief Engineer, testified that the Company could not afford, from a financial standpoint, to have a department such as the American Company maintains, even on a small scale; that even if it undertook to provide a small department, the services it could render would not approach in value the services received from the American Company (R. I, 345).

Counsel say in their brief that this Company has its own engineers who are competent to handle its problems and that therefore the engineers of the American Company represent a duplication. But the record shows that the contrary is the fact. This Company's engineers are competent. But they are

operating engineers in the field, whereas the engineers of the American Company are development, research and consulting engineers (R. I, 217; 417). Each is a specialist in his own field (R. I, 213-14; 217).

The contract makes directly for an avoidance of duplication. If the general research and development work done by the American Company were undertaken by the Associated Companies, it would be carried on simultaneously in a number of places all over the country. Under the contract the work is done by a department centralized in the American Company and by men who are specialists in their field, transmission engineers, induction engineers, electrolysis engineers, etc. The American Company has the advantage of the experience and knowledge gained in this Company's territory and in the territories of all the other Associated Companies. The record is that the arrangement results in better work being done, better service afforded, and an avoidance of duplication (R. I, 208-9; 280-1; 345; 371; 393-5; 398-9; 414; and much other testimony).

Not only is this true, but independent development such as has been mentioned would necessarily be along divergent lines, which would not only destroy the economies which grow out of standardization (R. I, 246-7; 255-6), but would render impossible the universal service that is characteristic of the United States and is based upon standardization.

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This Company's managing officers had the right to act as ordinary business men and gauge the value of this contract by its value to this Company.

Judged by this standard it is beneficial and advantageous.

The board of directors needed only to ask themselves, (1) are these things reasonably necessary in our business, (2) are they worth what they cost, and (3) can we obtain them for less? If a reasonable board of directors might reasonably,—that is, in the exercise of a sound business discretion,—answer “Yes” to the first two questions, and “No” to the third, neither the City nor the court could gainsay them.

To disallow the payment is to hold the contract void. The American Company is under no obligation to furnish these instruments, patents, and services except the obligation of the contract. If that is void the Company must obtain these things on other terms. Would the people of Houston be better or worse off if this Company, for example, should be obliged to pay specific royalties on all the patents; to create and maintain its own Development and Research Department; to employ its own expert staff; and so on? How much would it cost? How much of the benefits it now obtains under this contract would be lost to the Company and to the public? That it would not cost less is settled by the unchallenged finding of the court below in this case. That much would inevitably be lost is shown by the uncontradicted proof. If it were obliged to pay on a *quantum meruit* basis, how much would it amount to? These are the alternatives.



**V.****Depreciation.**

(The City's Fourth Assignment of Error.)

The Master found that 6.33% was the proper rate of depreciation, applied to the value of the physical property alone, of \$5,500,000 (R. I, 41-2). The trial court approved this rate applied to the amount of the investment, as found by the court, of \$4,671,567 and allowed 6.33% of that amount or \$289,380 (R. I, 58). The City contends upon this assignment of error that the rate should have been 4% instead of 6.33%.

In the rendition of its telephone service the company uses up the property which constitutes its plant. The property so consumed, less what is realized as net salvage, constitutes a part of the cost of rendering the service. This cost item must appear in the operating expenses if they are to correctly reflect the cost of the service. As to the accounting methods applied to these facts, the company is without any discretion. They are prescribed by the Uniform System of Accounts established by the Interstate Commerce Commission for the use of telephone companies (R. II, 799). In effect, the requirement is that during the period of the useful life of the property there shall be charged to operating expenses and credited to the account called "Reserve for Accrued Depreciation" an amount equal to the property used up, plus the expenses incident to its retirement, less the amount of any salvage. These charges and credits are to be made in equal monthly installments. The total amount charged is to be based upon rules derived from consideration of the company's history and

experience (Plaintiff's Exhibit 11, at page 67 thereof, R. II, 799).

The practical application of this rule requires that there be determined as matters of fact the useful life of the property and the net salvage; that is, the salvage after the payment of the cost of retiring the property. If a switchboard be taken as 100%, and it be determined that in fact its life will be fourteen years and the net salvage will be 30%, then, deducting the 30% from the 100%, there remains 70% to be provided for through charges to operating expenses and credits to the account "Reserve for Accrued Depreciation" during this fourteen years of useful life. The amount to be so charged during each year would obviously be  $\frac{1}{14}$  of 70%, or 5% of the original factor, and during each month  $\frac{1}{12}$  of this 5%. When these factors have been worked out as to each item of depreciable plant, it is merely a matter of mathematics to obtain the composite percentage which should be applied to the entire plant.

In passing, it may be noted that while in the accounting rules the term "Reserve for Accrued Depreciation" is used to designate the account to which the credits are made, corresponding to the charges to operating expenses, no reserve, in the sense of a special fund set aside, is actually maintained. The money represented by the charges to operating expenses and the credits to this account is invested in plant, so that as capital is used up other capital replaces it and the total capital is not impaired.

It is perhaps worth while to note also that the amount of these charges is wholly independent of the question of renewals. The material question

is the expense on account of property used up in rendering the service. This expense is the same whether renewals are made or not. If a switchboard is used up, neither the fact that the expense is incurred nor its amount can be in any way affected by whether the switchboard is ever replaced or not, or when it is replaced. As a matter of fact, it is very seldom that any property is actually renewed. Where property is displaced almost invariably what is substituted for it is property of a different character.

The proof adduced by the Company was in accordance with the accounting rules that have been referred to (R. I, 519-58, II, 559-71; II, 800-809). Based upon the experience of the company over a long series of years, it established from the lives of the different parts of the plant a composite life of the plant as a whole, with the amount of net salvage which experience showed might be anticipated, and from these factors deduced the percentage which was approved by the Master and by the court below as the proper percentage to be applied in order to carry out the requirements of the system of accounts prescribed by the Interstate Commerce Commission, as well as the one necessary to adequately protect the company upon this item of expense.

The only testimony presented by the City upon this question was that of Mr. Kelsey, who is referred to in the City's brief, page 40, as having had "more than twenty-five years practical experience in the telephone business". But Mr. Kelsey testified that he had never made a study of the rate of depreciation that should apply to the different parts of the plant (R. II, 574), and when interrogated on the subject of the average life of the

property, stated, "I know nothing about average life" (R. II, 606). What he did was to apply a rule of thumb that "total maintenance"—the sum of current maintenance and depreciation—should be \$11.00 per station per annum, and that depreciation to be allowed in any year would be the difference between this amount and the actual current maintenance, whatever that might happen to be (R. II, 572). This rule, which is as arbitrary as it is artificial, and wholly ignores the requirements of the Interstate Commerce Commission's accounting system, he would apply irrespective of the value of the property (R. II, 612) or the proportion of long lived underground plant to relatively short lived aerial plant (R. II, 576), or the changes in the cost of current maintenance due to changing price levels (R. II, 574-5). And when he was asked whether any court or commission had ever accepted his method for computing depreciation he answered, "A court or commission don't concern me; I never made a dollar out of a court" (R. II, 606).

Counsel comment upon the fact that the plant was in excellent physical condition at the time of the trial. If a switchboard has a life of fourteen years and a net salvage value of 30%, the physical condition of the switchboard at any time during this period does not affect the amount of the periodical increments which must be charged to operating expenses and credited to the depreciation reserve to provide for the 70% that is being used up during the period of its useful life.

In this connection counsel point to the difference between what they call the "realized depreciation", that is, the amount of the charges to the depreciation reserve on account of property renewed in any

year, and the amount of the credits to the reserve for accrued depreciation during the same year. But this argument shows a plain misapprehension by counsel of the effect that rapid and continuous growth in plant has upon the relation of these two items to each other. In this case the book cost of the property in 1919 was thirteen times its cost eighteen years prior to that time, in 1901. The plant that is being renewed is the old plant. Where a plant is growing so rapidly as this one, if the average life be assumed to be about 14 years, today the small plant that existed fourteen years ago is being renewed, while the credits to the reserve for accrued depreciation are based upon the large plant existing to-day, which will have to be renewed fourteen years hence. If the account "Reserve for Accrued Depreciation" was built up on the basis of the plant being renewed today, it obviously would only be large enough to provide for such a plant and would be an entirely inadequate provision for the very much larger plant of today.

As the average plant in use grows year by year the amount in dollars of the credit to this account increases year by year. As the charges to this account on account of plant displaced are made year by year they will also increase, but they will always be smaller because the plant displaced is the old, small plant, so long as the plant continues to grow.

In the absence of facts showing an abuse of discretion, the provision which should be made for depreciation is a matter within the jurisdiction of the management of the corporation. Its determination requires the exercise of judgment because through these charges provision is being made for future contingencies. Just as the actuary of an

insurance company cannot tell when any person insured by the company will die, so it is impossible to say exactly when any pole or building or switchboard, or any other piece of plant, will go out of service. While this is true, it is also true that the recorded experience of the telephone engineer covering a long series of years, like the experience available to the actuary, enables him to predict average results with remarkable accuracy. Good management requires that the integrity of the service and the integrity of the property be insured by adequate provision for expense items which cannot be exactly known in advance. So long as the action of the management is predicated upon intelligent judgment honestly exercised, it should not be interfered with by courts or regulatory bodies.

## VI.

### **Rate of Return.**

(The City's Fifth Assignment of Error.)

The Master found that 8% would be a fair return under present conditions and the trial court approved this finding (R. I, 58). The City assigns error, claiming that this should be reduced to 6%.

In its opinion, the district court cites *Lincoln Gas & Electric Company v. City of Lincoln*, 250 U. S., 256, and quotes what this court said there on this subject, as follows:

"It is a matter of common knowledge that owing principally to the World War, the cost of labor and supplies of every kind have greatly advanced since the ordinance was adopted, and

largely since this case was last heard in the court below. And it is equally well known that annual returns upon capital and enterprise the world over have materially increased, so that what would have been a proper rate of return for capital invested in gas plants or similar public utilities a few years ago, furnishes no safe criterion for the present or for the future."

The Company introduced a considerable amount of testimony of bankers and other men of Houston whose business it is to be informed upon this subject, and who showed themselves fully conversant with the facts (R. II, 619-660). Their testimony would sustain 10%. It is true, as the City's brief says, that some of them testified to a rate as low as 6 or 7% on business property in the community. But this testimony has reference to first mortgage loans on the best and most favorably situated business property in Houston, in an amount not to exceed 60% of its value, the borrower to pay all commissions and expenses incident to making the loan. They regarded such loans as prime, gilt-edged investments, involving a hazard practically negligible. Loans on choice residence property to an amount not to exceed 50% of its value, and otherwise on the terms above stated, were commanding  $7\frac{1}{2}$ % and 8% and, in some instances, as low as 7%; first mortgage loans on unimproved farms, 8%, improved farms as low as 7%; prime commercial loans, short time, the money remaining on deposit in the lending bank, so that the bank retains the use of the greater part of the money,  $6\frac{3}{4}$ % to 7%. They regarded the security for all these loans as excellent.

In order to sell telephone stock, local investors would demand practical assurance of dividends of



10%. The investor would not be concerned simply with the value of the physical property of the utility but would require assurance as to its earnings which, in view of the attitude of the city government in the past, would not be forthcoming. Under existing conditions, very little capital would be found available in Houston for investment in telephone stock (R. II, 619-660).

There is much additional testimony in the record concerning the current return on capital invested in other lines of business, in banks, manufacturing and mercantile lines, in bonds of public utilities, etc. All of it supports the finding in this case. We do not deem it necessary to take space to review that evidence.

The only testimony on this subject offered by defendant is that of the City's expert, Lyndon. He testified:

"But I am very definitely on record in a large number of cases, that 8% is a proper, rational return and, under ordinary conditions, for any public utility, and that 7% is a proper return until we get away from this period of inflation of wages and every other cost that a utility and an individual now suffers. I do not think that every increase in price should be passed on to the consumer, or to the user of your service and then a continuous flat 8% be maintained" (R. III, 1217).

If 8% is the fair rate of return under ordinary conditions, as this witness testifies, it is clear that 10% would not be excessive under present conditions.

Mr. Lyndon did not know of any place where plaintiff could get money for less than 8% (R. III, 1217).

The record shows that 10% on loans is lawful, that is, not usurious, in Texas (R. II, 624).

Much more significant than the legal rate of interest as provided by the statutes of Texas are certain statutory provisions covering the rate of return which public utilities shall not be deprived of the right to earn, by the cities in the exercise of their power to regulate rates. The legislature has fixed 10% per annum "upon the investment" or 10% per annum "on the actual cost of the physical properties, equipments and betterments" as the minimum rate of return.

Article 1018, Complete Texas Statutes for 1902, which confers upon city councils the power to regulate by ordinance the rates of water, gas, light and sewer companies, concludes with the following proviso:

"\* \* \* Provided, that the city council or board of aldermen shall not prescribe any rate or compensation which will yield less than 10% per annum net on the actual cost of the physical properties, equipments and betterments" (Acts 1907, p. 217, section 1).

Article 1028 (Acts 1905, p. 348, section 4), which is made specifically applicable to "telephone companies, furnishing telephones to the public" by Article 1031, Section 7 of said Act, provides for an appeal to the courts from any rate fixed by the city and contains a similar provision, as follows:

"After a full hearing of all the evidence adduced by the parties, the court or jury shall have power, and it shall be their duty to fix the rates which may be charged by such public utility corporation, *provided, that the rates fixed must be sufficient to yield such public utility company not less than 10% upon the investment, and the same shall continue in force for a period of three years.*"

We might have dismissed this question of rate of return, at the outset, as academic, since there was no return whatever from the rates in issue; but upon a consideration of the question upon its merits it is clear that 8% is not too high—indeed it might be argued with great force that it is too low—and that this assignment of error is without merit.

## VII.

### **Purchase of equipment and supplies, and certain services from the Western Electric Company, Inc.**

(The City's Sixth, Seventh and Eighth Assignments of Error.)

The City groups and argues together these three assignments of error (City's brief, p. 41). Two of the matters embraced by them are covered by previous assignments and argued in earlier sections of its brief. We have likewise argued those matters in preceding sections. The only new matter now presented for consideration is that indicated by the caption above.

This Company purchases the greater part of its equipment and general supplies, and obtains certain services, from the Western Company.

The whole course of the dealings between these two companies was gone into exhaustively upon the trial, and the Master and the trial court approved them as fair and advantageous to the Company, and legal (R. I, 44; 57). The City excepted to the Master's findings, and assigns error upon the action of the trial court in overruling its exception (City's twelfth exception, R. I, 48).

**The City's contentions are:**

(1) That whatever profit the Western Company makes out of its transactions with the Company, so far as they relate to Houston, is the profit of the American Company, because the American Company owns the greater part of the stock of the Western Company. Such profit accruing to the American Company is the profit of the Southwestern Company, plaintiff, and must be credited to the Houston exchange as part of its revenues, because the American Company owns the stock of the Southwestern Company and hence is the actual plaintiff.

(2) That the Western Company charges this Company exorbitant prices for equipment and supplies, and makes exorbitant profits out of these dealings.

The first contention is purely one of law, and the second purely one of fact.

### **The Question of Law Presented by the City.**

*The facts that bear on this question.*

The Western Company is a manufacturing and merchandising corporation organized under the Business Corporation Law of the State of New York in the year 1915. (Its predecessor was an Illinois corporation organized in 1881.) Its principal business is, and always has been, the manufacture of telephonic equipment and apparatus of all kinds. The only relationship that has ever existed between the Company and the Western Company is the contractual one to be presently described. The two companies are separate and distinct corpora-

tions, organized at different times under the laws of different states and engaged in prosecuting businesses that are not only separate and distinct, but of an entirely different character and scope—the one, a telephone business confined to a few southwestern states, the other, a manufacturing and merchandising business extending throughout the world. Their officers and managing personnel are entirely different; there is no intercorporate stockholding, although the American Company owns most of the stock of both. In a word, the only contact between them is that which arises out of the fact that the Western Company has things to sell which this Company requires in its business and finds it advantageous, as the proof and the findings of the Master and the court show, to buy from the Western Company.

What we have said above may be said also concerning the relationship between the American Company and the Western Company, except that the American Company owns all but a small, though by no means inconsiderable, minority of the stock of the Western Company. The American Company exercises this stock control in a normal, fair and legal manner. It elects the directors of the Western Company, and in that sense and no other controls its business policy. Aside from that the Western Company is wholly independent of the American Company. There is a contract between them, entered into at the inception of the telephone industry about forty years ago, under which the Western Company is the licensed manufacturer of telephone equipment and apparatus of all kinds covered by the patents owned or controlled by the American Company. There is the closest cooperation between the two companies which, as the record shows, is in

the interest of the telephone industry and redounds directly to the advantage of the telephone using public (R. I, 218; and much other testimony).

At the earliest stages of the telephone industry the American Company owned the basic telephone patents and early developed and acquired large numbers of patents covering practically every improvement in the art as it was made. It was not and never has been a manufacturing company. It was necessary for the American Company to license a manufacturer to make and sell under its patents.

The Western Company was engaged in the manufacture and sale of telegraph and telephone equipment and supplies, and was selected as the American Company's licensee because of the excellence of its products as compared with those of competing manufacturers (R. II, 663). The policy of the American Company then, as now, was to make available to the operating companies the very best apparatus and equipment that could be had (R. II, 815). These were matters of management.

In connection with this question of management and the action of the American Company in licensing the Western Company, it is worth while to note here that it was not only necessary that there be a dependable adequate supply of well-made apparatus, but also to take into account the peculiar nature of the telephone industry. The various pieces of apparatus are co-ordinated and adapted to each other, such as the lines, the switchboards and the instruments. Switchboards are bought in sections, additional sections being added until the capacity of the exchange is reached. These facts deprive telephone companies of the opportunity to resort to competitive bidding when they want additional apparatus. Having adopted the

apparatus of one manufacturer, they are required to continue its use until they are ready to abandon it and adopt that of another. These factors must be taken into account if one is to consider the question whether the American Company acted wisely in endeavoring to control the manufacture for the Bell System, instead of permitting the Bell System to be controlled by the manufacturer, and also whether the Southwestern Company acted wisely in patronizing this manufacturer. It is a matter of common knowledge that the telephone industry is the only electrical industry whose development is not controlled by the manufacturers. The Bell System is in a position to require that its apparatus be designed not only with reference to its present needs but also with reference to the lines along which the art is developing, so that the greatest efficiency and greatest economy may be accomplished (R. I, 219; II, 663).

The business between the Company and the Western Company is covered by a contract between them known as the "Supply Contract". Each of the Associated Companies of the Bell System has a similar contract with the Western Company (R. II, 662). A form of the contract is in the record (Exhibit 141, R. II, 827-31), and supplementary letters and documents setting forth addenda and certain modifications of the contract (R. II, 832-47). This contract embraces three general classes of transactions, as follows:

1. *Purchases of Articles of Western Electric manufacture.* The telephone system of the Company is equipped with the instruments and appliances, covered by the American Company's patents, that are standard in the Bell System. The Company purchases them (except the instruments)



from the Western Company upon the terms provided in the contract, which are:

(a) Underground, aerial and submarine cable manufactured by the Western Company, if shipped from factory, at factory cost plus 8% of such cost; if shipped from storeroom, factory cost plus 10%. Factory cost shall include only the cost to the Western Company of productive labor and materials, and that portion of the Western Company's overhead expenses properly assignable to manufacturing the cable.

(b) Other manufactures of the Western Company at reasonable prices as low as its prices to its most favored customers in the United States.

2. *Purchases of articles not manufactured by the Western Company.* The Company has constituted the Western Company its purchasing agent to procure for it articles which the Western Company does not manufacture, such, for example, as paper for telephone directories, stationery, office furniture and fixtures, etc., at cost plus 6% if shipped from any storeroom of the Western Company, or cost plus 4% if shipped from any other point. In the case of hard drawn copper wire, the price is cost plus 5% if shipped from storeroom, cost plus 1% if shipped direct. In ascertaining "cost" herein, the Company is given the benefit of all rebates, discounts and commissions.

3. *Services.* The contract provides for certain services to be performed by the Western Company such as warehousing, inspection, carrying special stocks, operating local repair and emergency shops, cartage, handling shipments and shipping claims with railroads, receiving, storing and reissuing or

disposing of apparatus or material returned by the Company, etc.—services which the Western Company is equipped to perform with the greatest efficiency, economy and dispatch.

Only such services are performed for the Company as it may request and at such remuneration as the parties may agree upon.

The rates of remuneration for these services as agreed upon from time to time are shown in the record, pages 834-870. The following items are typical:

(a) Repair and emergency shops. So far as possible standard repairs will be charged at agreed on flat prices, representing the Western Company's cost (R. II, 839).

(b) Recovery shop. The Western Company will charge the Company monthly its actual cost of labor, plus 15% loading to cover department expenses and supervision expense, and material at prices usually charged the Company (R. II, 839).

(c) Handling shipping and shipping claims. The Western Company will make a monthly charge of \$80.00, representing approximately its cost of doing the work and interest for a period of forty-five days on the total amount of money advanced each month (R. II, 841-2).

(d) Cartage. Actual cost of truck hire plus 6% to cover the cost of supervision of trucks and necessary clerical work (R. II, 842).

(e) Inspections. Prices represent actual cost to the Western Company (R. II, 844-5).

(f) Poles. Other than chestnut poles, which are ordinarily bought from dealers, cost plus 4% for inspection; cost being the net price that the Western Company pays the suppliers (R. II, 869).

It must not be understood that the Western Company's business is confined to the Bell system. It sells its telephone products in large volume to the general telephone trade, that is, to the independent (non-Bell) companies throughout the country.

In addition to the foregoing lines of business, the Western Company deals on a large scale in electrical goods of other manufacturers, not required or useful in the telephone business, such as electric fans, washing machines, electric ranges and the like (R. II, 662, 705).

In the year 1919 the Western Company's sales aggregated \$135,000,000, of which \$70,000,000 represented sales to the Associated Bell Companies, and \$65,000,000 sales to independent telephone companies, and to companies and concerns other than telephone companies (R. II, 704-5). These figures are for the domestic business alone.

*The question presented upon these facts.*

The proposition of law presented by the City upon this state of facts is that, solely because of the American Company's stock ownership, the separate corporate identities of the Western Company and of the Southwestern Company must be disregarded, so that any profit the Western Company makes in its Houston business (if it could be ascertained) must be treated not as its own, but as that of the Southwestern Company, plaintiff.

This is the same proposition advanced by the City in connection with the license contract payment to the American Company, argued in the fourth section hereof, *supra*, page 38. We desire to add here only two comments.

We concede here, as we did there, that it is proper, and may be obligatory under the law, for

the court to scrutinize closely any dealings between these corporations whereby any unjust advantage might be taken by the stockholding company. The trial court applied that rule to these transactions and found them to be fair and advantageous to this Company (R. I, 57).

While the American Company owns the greater part of the stock of the Western Company, there are minority stockholders. What is the Western Company's obligation under the law to those minority stockholders?

It is the contention of the City that the American Company, which is in a position to assert a control over both the Southwestern Company and the Western Company, should compel the latter to sell its manufactured products to the former at cost in disregard of the rights and interests of the minority stockholders in the Western Company. It is unnecessary to inquire how such a course would appeal to these minority stockholders. If they were to come into a court of equity and assert that, abusing its control, the American Company was doing this, is there any question as to what the attitude of the court would be?

### **The Question of Fact.**

*The Proof is Overwhelming that the Prices Charged this Company by the Western Company are Fair.*

The City claims that it has shown that the Western Company's prices to this Company are excessive and that the trial court erred in overruling its exception to the Master's finding to the contrary. The proof decisively refutes this claim. We

address ourselves to that phase of the controversy. We shall set out first the Company's proof and then the City's.

*Company's Proof on Western Company Prices.*

The City refers in its brief, on page 42, to what it calls the "only effort" of the American Company, which it regards as the real plaintiff, to make a disclosure of the profits it realizes from these sales by the Western Company to this Company, and refers in that connection to the testimony of Mr. E. V. Cox that such profit was less than 8 per cent. The City's brief further characterizes this testimony as having been "volunteered on cross-examination" and complains that the witness did not furnish the expense bills of the Western Company to support this testimony.

This characterization of this testimony is inaccurate and misleading in several respects. In the first place, there was no "effort" made by this Company to prove in this case the amount, or the per cent., of the profits of the Western Company. The Company maintained that the fairness of the dealings between the two companies was to be determined by the results to this Company, and not by results to the Western Company, and that so long as the prices were fair and reasonable and the dealings advantageous and beneficial to this Company, it need not concern itself with the results to the Western Company, and was not called upon to make such proof in order to establish its case. In the second place, the evidence brought out by the City on cross-examination was responsive, was testified to by a witness who knew the facts of his own knowledge, and was competent evidence

in all respects except perhaps as against the best evidence rule, which the City, by the course of the cross-examination, waived. Lastly, the testimony was given by a witness called by this Company. The American Company had nothing to do with it, although the witness was in the employ of the American Company. We shall refer to this matter again in connection with our discussion of the testimony of Mr. Cox.

*George P. Player*, telephone valuation engineer, St. Louis, Missouri.

He started in the telephone business in 1898 and was for ten years in the employ of independent telephone companies operating in opposition to Bell Companies.

About 1908 he became Telephone Engineer to the Corporation Commission of the State of Oklahoma. He remained with the Oklahoma Commission five and one half years. In that position he made extensive field inventories, appraisals and valuations of telephone properties throughout the State.

In March, 1914, he became Telephone and Telegraph Engineer to the Public Service Commission of the State of Missouri. He made an appraisal for the city of the Bell Company's \$9,000,000 property in St. Louis. He made an appraisal of a \$1,000,000 telephone property at Springfield, Missouri, and of many other telephone properties ranging in size from \$50,000 to \$500,000. In 1916 the Missouri Commission made him Chief of the Telephone and Telegraph Department of the Commission, having direct supervision of rates, rules and regulations of the various telephone and telegraph companies under its jurisdiction. After the war, in which he served with the rank of Captain, he went into business for himself.

He is not an employee of any Bell Telephone Company. He was engaged by the plaintiff to value the Houston property and testify in this case (R. II, 559-64, III, 1428).

Mr. Player appraised the central office equipment (much the largest item of which is switchboards) at Houston. He used average prices for the past five years and, checking the Company's prices over that period, found them to be conservative. He said:

"When I got those prices I made a check of them. I did this; I checked them in comparison with other appraisals that I had made of the same class of equipment, and *found them to be conservative and correct* and so I adopted them. This same procedure has been accepted by both the Oklahoma and Missouri Commissions and by the courts after that, in the cases of those commissions" (R. III, 1458-59).

Further testifying concerning Western Company prices generally, this witness said:

"In connection with the various rate cases that go before these Commissions, I have had and the Commissions in some of the cases in which I participated had occasion to investigate the prices of the Western Electric Company with reference to whether or not they were high or low, or how they compared with the other companies; we had done that, in fact, I personally have gone through the Western Electric plant at Hawthorne, Ill. I have also gone through the Automatic Electric Company in Chicago, and the Stromberg-Carlson Manufacturing plant there and I can say frankly that the prices of the Western Electric Company are no greater than they are of these other companies for the same class and character of equipment. *As a matter of fact, the prices are a little bit lower, due to economical*



*reasons more than anything else.* Their facilities are so great of supplying the demand, they can turn the apparatus out more readily, thereby causing the Company that wishes to buy it to be served long before they can secure a similar type of equipment from some of the other companies or manufacturers. Not that the prices are any lower, but in the interim that they would have to wait for this equipment they are receiving revenue from apparatus installed where they would still be waiting for it from the smaller manufacturers" (R. III, 1461).

His testimony completely refutes the City's charge that the Western Company exacts excessive and exorbitant prices for its products.

*James E. Allison*, St. Louis, Missouri. Valuation engineer of the firm of James E. Allison and Company since 1914.

In 1909 Mr. Allison was appointed Commissioner and Chief Engineer of the St. Louis Public Service Commission, a commission created to make detailed valuations and recommend rates and regulations for all public utilities in the City of St. Louis. During four years in that position he had charge, as Chief Engineer for the city, of the valuation of public utility property aggregating \$107,000,000 in value. He resigned in 1914.

The witness has valued upon detailed appraisal \$45,000,000 worth of telephone properties, Bell and independent, besides his work as Commissioner in St. Louis.

On the public side of valuation and rate cases he has been employed as expert by the City of San Antonio, Texas, in litigation against the plaintiff company in 1918; by the City of New Orleans in connection with street railway property; by the

City of St. Louis in its street railroad case before the Public Service Commission of Missouri, 1918.

As a witness for the utility he represented his firm in 1914 in the valuation of the electric light property in Houston.

He was employed by the plaintiff to appraise the exchange property in Houston, to do it in his own way, and be prepared to testify in this case (R. III, 1551-53, 1554). This is Mr. Allison's first employment by any Bell System Company (R. III, 1592).

Mr. Allison testified:

"In my valuation work I have occasion to be familiar with the prices for a number of years back. I am familiar with the prices which in a general way existed prior to the beginning of this World War which we have just gone through; we have eleven years' records in our office of prices and we have practically a complete record of vouchers and bills of all these companies, and they are all indexed, and copies of their contracts, and it forms a rule for records, and they have there all the prices practically of the material that enters into the make-up of public utilities since 1909" (R. p. 1554, f. 3042).

Referring specifically to Western Company prices he testified:

"I have been in this business for a good while and have investigated the prices of material a good many times, and I have had occasion to draw comparison between the prices of the Western Electric Company and the prices of other suppliers on telephone materials; we have made valuations of Independent Companies considerably, and we once had a study made in our office to see, as a matter of curiosity and information to ourselves, we didn't know we were going to use it, we found

*that the Bell Telephone Company buy a little cheaper on the whole than the Independent Companies, that is, for the comparative items. That was made some years ago and I remember the results very clearly \* \* \** (R. III, 1557).

His testimony above quoted, that Bell Companies buy a little cheaper on the whole than independent companies, for comparative items, is supported by other like testimony to which we shall refer.

Counsel for the City volunteered to say that he did not question Mr. Allison's honesty or his integrity (R. III, 1581). We may add that he displayed a thorough knowledge of the matters to which he testified, and complete independence of judgment.

*Benjamin T. McBurney*, Vice-President and Assistant General Manager of the Cincinnati and Suburban Bell Telephone Company, Cincinnati, Ohio.

The Cincinnati and Suburban Bell Telephone Company is one of the two non-controlled "Associated Companies" of the Bell System. It has a capital stock of slightly more than \$10,000,000 par value with no bonds. The American Company owns approximately 30% of its stock, which it acquired about the year 1880 when the "License Contract" was entered into between the two companies. In 1913 the Cincinnati Company entered into the supply contract with the Western Company and has found it to be a very profitable contract.

Mr. McBurney testified as follows:

"Q. Do you feel that that (the Western Company contract) is advantageous to you?

A. We entered into that contract on September 1st, 1913, and I am rather familiar with it because, at that time, I had charge of the direc-

tion of the contracts, so to speak, and the result of that was, *in the first year we cut supply expenses, which is the cost of warehousing and handling supplies, exactly in half; as I recall it, we figured that we saved at the end of the first year, under the operation of the supply contract on account of reduction in material costs to us, in the neighborhood of \$35,000.00, and also reduction in prices of material bought from the Western Electric Company, because we got it under more favorable prices under the supply contract than theretofore.*

Q. That benefit has continued from year to year?

A. Yes, sir.

Q. So you figure on past experience that about \$35,000.00 is saved in that respect alone?

A. Yes, sir.

Q. Have you ever had the idea that the Western Electric contract was a contract that was put over on you by the American Company in order to make additional dividends?

A. No sir, we entered into the contract absolutely on our own volition.

Q. Are you free to get (out of) it any time you want to?

A. We are free to get (out of) it any time we want to, but as a matter of fact, we sometimes make our purchases outside if we feel we get better prices" (R. I, 395-96).

*Frederick Leland Rhodes*, telephone engineer, American Telephone and Telegraph Company, New York City. He testified chiefly concerning the license contract. On cross-examination however, being interrogated upon the matter we are now considering, he testified as follows:

"Q. You don't know what amount of profit it (the Western Company) has made in the last few years on the equipment sold to the Houston exchange here?

A. No sir, I do know this that *the Western Electric Company sells a very considerable amount of telephone apparatus in competition with other manufacturers in the open market, and I understand that the associated companies never pay more than that market price and generally pay less, for the same apparatus*" (R. I, 283).

F. M. Hoag, Plant Supervisor of the Company, for the State of Texas, testified on cross-examination:

"A. No, sir, but I do know that the working arrangement which the Bell Telephone Company has with the Western Electric Company *makes for great economy and makes for great efficiency in the general handling of our business*" (R. II, 710).

C. A. Gates, Vice President of the Company, Dallas, Texas, testified on cross-examination:

"Q. You are Vice President of this Company and its General Manager,—what relationship is there between this company and the Western Electric Company?

A. Why, we have a working arrangement with them whereby we buy our material from them under certain conditions, at a certain price, *which is materially less than we could buy it in general market.*

Q. You have a contract whereby you buy all of your material from them that they can furnish?

A. Not necessarily all of it, we are not confined to their market" (R. II, 711).

E. V. Coe, Supply Contract Auditor, New York City.

His testimony is printed in the Record, Vol. II, at pages 660-709, and the exhibits introduced during his testimony, numbers 141 to 145, inclusive, appear in Vol. II, at pages 827 to 876.

He testified that it was his duty to watch the workings under the contract in every particular, and to be certain that the Associated Companies receive the full benefits of the contract, that the prices are such as should be billed, and that the service is the best that can be given (R. II, 671).

Mr. Cox was peculiarly qualified, therefore, to testify as to costs and prices charged by the Western Company. His testimony shows that, both from the manufacturing and the supply standpoint, the contract relationship results in lower costs and large economies to this Company.

He shows first that the prices charged the Associated Companies, of which the Company is one, by the Western Company are uniform in the sense that they are the same to all (R. II, 676-677; Plaintiff's Exhibit 145, R. II, 875).

He then shows that the prices made to all the Associated Companies are lower than the prices charged other companies, not a part of the Bell System, to whom the Western Company sells in competition with other manufacturers of telephone equipment.

In 1914 the prices to the Company for telephone material and supplies covering all parts of the telephone plant were lower by 21 per cent., and in 1919 by 38 per cent., than the prices charged independent companies for the same material and supplies (R. II, 673-4; Plaintiff's Exhibit 143, R. II, 870).

The record shows that the Western Company sells its manufactured products (with the exception of a few articles under certain patents owned or controlled by the American Company which it has not released for use outside of the Bell System), to the general telephone trade, that is, outside the Bell system, to anyone who may care to buy. In 1914

such sales to the independent companies amounted to \$2,300,000; in 1918, to \$3,300,000.

These sales at higher prices were made in a competitive market. There are three principal independent manufacturers of telephone equipment of all kinds, the Kellogg Manufacturing and Supply Company, Stromberg-Carlson Company, and the Dean Company (R. II, 682), in active competition with the Western Company for the independent trade. The fact that the Western Company sold its products to the amount stated in open competition with these companies establishes the fairness of even these higher prices of the Western Company's products (R. II, 674; Plaintiff's Exhibit 143, R. II, 871). Notwithstanding the price differential against them, the independent companies increased their purchases by about 43% between 1914 and 1918, showing thereby that the Western Company's prices met the test of competition.

The rise in costs due to the world war compelled the Western Company to increase its prices. It is extremely significant that under these conditions its prices to the Associated Companies increased only 52% as against an increase in its prices upon the same things to independent companies of 82%, and as against an average increase of 121% by other manufacturers of telephone apparatus (R. II, 673; Plaintiff's Exhibit 143, R. II, 870).

As further proving the advantage in prices made the Associated Companies, a study of the books and records was made to ascertain the costs of telephone apparatus to a company, the Utica Home Telephone Company, when it was an independent (non-Bell) company as compared with what the comparable articles of the Western Company's make would have cost (R. II, 674; Plaintiff's Exhibit 144, R. II, 871-4; 674-76). The Utica Com-



pany was established by the Stromberg-Carlson Telephone Manufacturing Company and was largely equipped with articles of its manufacture. Its books and records covered a period of eight years. The study showed that the cost of central office and substation equipment to the independent company, when purchased from companies other than the Western Company, was 18.69 per cent. higher than the cost of such equipment had it been purchased from the Western Company; and specifically as to lead cable that the cost to the said company when purchased from other manufacturing companies was 8.08 per cent. higher than if purchased from the Western Company.

By virtue of the contract (see Section 4, R. II, 829) this Company is also enabled to return to the Western Company old apparatus for renewal, or when a piece of apparatus has outgrown a particular situation, to have it disposed of to the best advantage by the Western Company, which has a wide market and established connections, an arrangement which this Company could not otherwise obtain (R. II, 664, 665). Through the control of the manufacturing design and the manufacturing process, it is possible for the Western Company to find a use for the renewed and outgrown equipment, and the savings to the Company through this service are large (R. II, 665).

On its manufacturing business the return to the Western Company is less than 8 per cent. of its investment. This was the testimony of Mr. Cox. It was not an unsupported general statement, as stated in the City's brief, but was ascertained by a careful study and computation made by the witness Cox of the Western Company's costs and prices and of the capital it has invested (R. II, 694).

The record does not justify counsel's criticism

of this witness. This testimony was brought out on cross-examination by counsel for the City. The City attorney was cross-examining Mr. Cox as to the amount of profit made by the Western Company on switchboards. At page 683, Vol. II of the Record, the City attorney asked Mr. Cox if he was able to testify as to the profit on that item, and the witness replied that he had recently completed a study, so that he could give the total profit of the Western Company but could not give it as to switchboards separately. Counsel for the City then stated that he would like to know what the profits were and to see the expense bills "both in 1914 and 1919, on the switchboard and on the different items manufactured", also on the transmitters and receivers, and inquired of the witness whether or not he had such expense bills. The witness answered that he did not have them (R. II, 683-4).

The cross-examiner thereupon dropped that line of inquiry. The witness had explicitly stated that, while he knew and could give the total profit of the Western Company, he did not have, and therefore could not exhibit, the expense bills.

But later in the cross-examination, at page 693, the City attorney returned to the subject and, asserting that the Company had it within its power to demand excessive prices, further cross-examined as follows:

"Q. Now, you say you are here to tell us that you have not abused the power you have in that regard?

A. Yes.

Q. Well, can you tell us now, just in a general way, or can you give us the figures such as I referred to a while ago, the expense bills of the manufactured products?"

The witness answered that the profit was less than 8 per cent. upon the investment.

The cross-examination continued as to how the witness had ascertained that fact, and he explained the matter at length in answer to many questions. He explained how the books of the Western Company were kept, how he got at the facts. He had devoted ten days to the investigation at the Company's offices at Hawthorne with a force of forty men to assist him and with two men working with him for some weeks thereafter on the matter, and had found the fact to be as stated (R. II, 693-95). No objection to the testimony was made, no motion was made to exclude or strike it out, and no exception was taken to its retention in the record. The matter was not brought to the attention of the trial court. The attempt to avoid the force of it now, on the sole ground that it was not the best evidence, comes too late.

With respect to that phase of the contract by which the Western Company acts as purchasing agent for the Associated Companies, buying, keeping in readiness and shipping to the Associated Companies supplies when needed, the testimony shows that this is of great advantage to this Company and saves it large sums (R. II, 666). It results in an enormous concentration of buying power. The requirements of all of the Associated Companies of the Bell System are in a sense pooled, as all have entered into the same kind of a contract with the Western Company. They are not in the same market bidding against each other. The result is that instead of having to buy through jobbers, as the Company would be required to do were it buying only for itself, the Western Company goes for it directly to the source of the sup-

ply, the manufacturer, and deals with him on the basis of a large and preferred customer. This does not mean a benefit only in price. That is substantial. But it means also a benefit in service as a whole, which may be even more important (R. II, 666). It saves the cost of maintaining a large purchasing department, heavy travelling expenses, warehousing charges, inspectors, etc.

The contract with the Western Company is also of great advantage to the Company in enabling it to take care of emergency situations, such as the great storm in Houston in 1915 (R. II, 668). The Western Company maintains branch storehouses at strategic points in each company's territory. It has storehouses in Houston (R. II, 665, 666). These storehouses contain the various items of telephone equipment and supplies in sufficient quantities to meet almost any emergency, and back of these storehouses is the centralized warehouse in Hawthorne, Illinois, where great stores of material and supplies are kept (R. II, 668). Were it not for this service on the part of the Western Company this Company would be required to carry a much greater amount of merchandise and material than it now carries, and would incur the added expense incident thereto (R. II, 669, 677).

The savings to the Company as the result of constituting the Western Company its purchasing agent run all the way from 2 per cent. to 12 per cent. on the various items (R. II, 677, 678), while the profit to the Western Company from acting as purchasing agent is less than three-tenths of one per cent (R. II, 695).

The third class of transactions—certain services which the Company engages the Western Company to perform for it, which the Western Company's extensive organization and business connections

covering the whole country enable it to perform with the greatest efficiency, economy and dispatch—can be dismissed with a few words. These transactions do not seem to be attacked in the City's brief. It is apparent upon the face of the exhibits, already referred to, that the Western Company performs these services practically at cost and that this Company and the public are the largest beneficiaries of this phase of the contract.

*City's Testimony on Western Company Prices.*

As against all the foregoing testimony offered by the Company showing that the Western Company's prices are fair and reasonable, the City cites in its brief and relies upon certain testimony given by its witnesses Kelsey and Lyndon concerning the Western Company's prices upon two classes of its manufactured products, viz., telephone *instruments*—that is, transmitters, receivers and induction coils—and *switchboards*. We shall now analyze this testimony.

1. *Instruments*—transmitters, receivers and induction coils.

The City cites the testimony of its witness Kelsey upon the prices of the independent manufacturers, who compete with the Western Company, for what he considers instruments of equal merit (City's brief, p. 45).

The comparable prices as stated in the City's brief are, Western Electric Company, \$5.50, Independent \$2.50; but the price placed upon a set of these instruments by the Company's witness Rhodes is \$4.50, not \$5.50 (R. I, 278). Moreover, Mr. Kelsey was testifying not as to the actual price made by any independent manufacturer, but merely to his opinion of what a proper manufacturer's

price should be (see his testimony quoted in City's brief, p. 45). His opinion is not shown to be based upon anything tangible in the way of actual knowledge of the subject.

But if the foregoing testimony of Mr. Kelsey could be said to have any real weight as evidence, it is entirely destroyed by his testimony elsewhere, so that the Master and the trial court could not reasonably have been expected to accept it.

Mr. Kelsey testified that, at and prior to the time of the trial, he was engaged in the business of buying these Western Company instruments after they had been discarded by the Bell Companies as no longer serviceable. He would then work them over and resell them to the general trade. He had sold as many as 125,000 instruments a year (R. II, 1068-9). He testified:

"A. Oh, no; we find that we can make more money by buying telephones that you folks throw away."

It will be recalled that the American Company owns these instruments, and supplies them to the Associated Companies, maintains them and keeps them in repair, as a part of the service it renders under the License Contract. It is fair to assume that it does not discard the instruments until they are so far gone that they are no longer capable of rendering telephone service up to the Bell standards.

For these discarded instruments Mr. Kelsey, even in 1914, before the era of war prices, found a ready market at \$2.60 an instrument. He testified:

"Q. What would a receiver and induction coil that has been worked over by you sell for?

A. Two dollars and fifty cents.

Q. That is just the induction coil, transmitter and receiver?

A. The rebuilt cost,—yes; the sale cost of 1914.

Q. That is for all three of them?

A. Yes, sir" (R. II, 1069).

He testified further, on the same page:

"A. We don't sell them brand new. We sell all transmitters for one dollar, all receivers for one dollar, all coils for sixty cents."

Yet, in the face of this testimony of its own witness, that discarded and worked over Bell instruments found a ready market at \$2.60, in 1914, before war prices supervened, and in reliance upon it, the City asserts that the Western Company should sell its brand new instruments to the company for \$2.50!

Moreover, Mr. Kelsey testified that the Kellogg Company, which is the Western Company's principal manufacturing competitor, sold its sets for \$4.60, or *10 cents more than the Western Company's price*. He said:

"I think Kellogg got their price up to \$1.95 for transmitters, \$1.95 for the receiver and sixty cents for the induction coils, which would be \$4.60 per set" (R. II, 1070).

As a matter of fact, this testimony has nothing whatever to do with this branch of the case. This Company does not buy telephone instruments, either from the Western Company or any other. They are furnished, maintained, replaced and new types substituted as they are developed, for the use of this Company as a part of the service rendered by the American Company under the License Contract. We might have dismissed this part of the City's argument by pointing out that fact. But we desired to show that, if it has any relevancy here, it not only failed to support the City's claim of exces-



sive prices, but proved—or tended very strongly to prove—that the Western Company's prices were reasonable.

2. *Switchboards.* The only other testimony adduced by the City in support of its claim that the Western Company's prices are excessive is that concerning switchboards.

The City's claim, as stated in its brief, is that independent manufacturers "*could* furnish this equipment for \$600,000, or more than \$400,000 less than the figures of the Western Company included in the inventory" (City's brief, p. 46).

In the first place, this statement in the City's brief misrepresents the testimony of its own witness and greatly overstates the claim. The testimony of Mr. Kelsey is as follows:

"A. It says Capitol unit here, ten sections of eight panel, three position subscribers switchboard, equipped with 8,800 subscribers multiple per section and 4,540 answering jacks; that doesn't appear in the summary at all. That's on page 69. We have Preston, then Preston again. It must mean that is Capitol, —That's a misprint. On page 69 you see you refer there—it seems the Capitol unit is included in the Preston exchange. It is included in with the Preston. That's pretty near a five-thousand line board, and *that would make about \$600,000.00 for that office as against \$752,000.00.*

Q. Now, when you speak of these things, I understand that you are speaking of the manufacturing cost, plus the manufacturer's profit?

A. Yes.

Q. And what an independent company would be glad to do the work for?

A. The same price, yes, sir" (R. II, 719).

So that, upon this testimony of the City's witness, the comparable figures are \$600,000 as against \$752,000, not as against \$1,027,000.

Following this there is further testimony of Mr. Kelsey, on page 720, concerning certain loading percentages to be applied to this and other property, such as for contingencies and omissions, engineering expenses, general expenses, etc. These have nothing to do with the question of Western Company prices. Kelsey leaves absolutely no room for misunderstanding what he deems the comparable figures to be, for on page 720, after his attention has been called to the other items just referred to, he again testifies:

"Q. As I understand you, then, in this comparison which you have just made, where you say the Preston, which includes the Capitol, would amount to around \$600,000.00?

A. Yes.

Q. By that you mean, that by an independent company it would reasonably cost to manufacture, plus the manufacturer's profit, \$600,000.00 as compared to \$752,000.00?

A. Yes."

The statement of the City's *claim* should be corrected accordingly.

Large switchboards such as these are made up of a multitude of separate parts—various types of jacks, plugs, keys, relays, cords, cable, wires, frame, etc. All these items are priced separately by the manufacturers and the current prices determine the price of the completed switchboard. See the cross-examination of Mr. Kelsey (R. II, 1093-96). From this cross-examination it appears that he must have based his idea of the independent manufacturer's price of \$600,000 upon Kellogg prices that were several years out of date, that he had no knowledge of current prices, and that the old prices he carried in his mind (assuming that he did actually know what they were) were far below current Kellogg prices. This renders his testimony valueless.

Moreover, Kelsey's testimony is directly at variance with that of the City's other witness, Lyndon. In 1914 the City of Houston employed Mr. Lyndon to value the Company's property in Houston for purposes of rate regulation by the City. At that time, in order to check up the Company's figures on central office equipment, Mr. Lyndon asked for and obtained prices from the Kellogg company. *The two were so close together that the difference was negligible, and he used the Western Company prices to ascertain a valuation for the City.*

In his report of that year to the City, beginning on page 1066 at the bottom, Mr. Lyndon says:

"Quotations were obtained from the Kellogg Switch Board and Supply Company, and this Company accorded us every courtesy in making up quotations for us. To make an estimate of this character of equipment delivered and installed, together with all the cable, wire and accessories, is a long and tedious process, and we could not expect any manufacturer to make such a close estimate for general estimate purposes as it would if there were a prospect of a contract for the material. *The Kellogg Company's quotations, when loaded with overhead charges, came so near to the figures given by the Southwestern Telegraph and Telephone Company, that we have considered it better to accept the Southwestern Company's costs*" (Italics ours. R. II, 1066-67).

The trial court found, with the Master, that the Western Company furnishes materials and supplies to this Company "*at prices on the whole less than the same character of supplies could be procured from any other source*", and that this Company was "*charged fair and reasonable prices for services and materials*".

Such testimony as that relied upon by the City is

wholly incapable of overturning these findings. The overwhelming proof sustains the findings.

*The Contract is not an Exclusive Contract. It Does Not Bind the Company to Purchase from the Western Company.*

Section one of the contract (R. II, 681) provides expressly that "nothing herein contained shall be construed as requiring the Telephone Company to purchase or use any article or articles manufactured or sold by the Western Electric Company, unless it shall desire to do so".

The contract never was an exclusive contract, and is not now. That is, it creates no obligation on the Company to buy any of its material and supplies from the Western Company. The Company is at liberty to buy from any other company or individual (R. II, 679, 681). Such patronage as the Company and the other Associated Companies give the Western Company is given in their own interest (R. II, 681).

*The Prices Paid to the Western Company Have No Bearing on Any Issue Raised by the City.*

The materials and supplies purchased by this Company and placed in the property become a part of its capital, its investment, except materials and supplies used in operating the property and charged to operating expenses, the amount of which is negligible in this case. Therefore, the prices paid the Western Company enter into the cost of the Company's property, and the amount of this cost is not in dispute except as to the item of \$754,000, part of the purchase price paid for The Houston Home Company's property upon consolidation. This item bears no relation to the question here. Therefore, the Western Company's prices are immaterial upon any issue raised by the City.

*The Clayton Act.*

In conclusion upon this assignment of error, the City asserts that these transactions constitute a criminal offense under Section 10 of the Clayton Act; or rather, that they would be criminal but for the fact that the effective date of that section has been postponed.

This point was not made in the district court and there is no assignment of error which in any way covers it.

But counsel are in error. Section 10 of the Clayton Act applies only to common carriers, and only "when said common carrier shall have upon its board of directors or as its president, manager, or as its purchasing or selling officer, or agent in the particular transaction, any person who is at the same time a director, manager, or purchasing or selling officer of, or who has any substantial interest in, such other corporation, firm, partnership or association \* \* \*."

Even if the point were open to the City on the record there would be no merit in it because:

1. The Company is not a common carrier. Telegraph and telephone companies are not common carriers. *Primrose v. Western Union Telegraph Company*, 154 U. S. 1 (see also *Propeller Niagara v. Cordes*, 21 How. 7, 22; *Hutchinson on Carriers*, Section 47; *Moore on Carriers*, p. 18).

2. There is no interlocking between the two companies.

3. If the Clayton Act were being violated by these transactions the penalty would be that prescribed in the Act. The offending company would not be wholly outside the pale of the law so that its property could be confiscated with impunity by the City,

by the imposition of rates that have that result. The Company would still be safeguarded in its rights of property by the guaranties of the constitution. Citation of authorities is unnecessary.

## **VIII.**

### **Confiscation.**

(The City's Ninth Assignment of Error.)

Error is assigned upon the conclusion of the district court that the rates complained of are confiscatory, and upon the decree enjoining their enforcement.

We have shown that this assignment is without merit.

We do not wish to let pass the suggestion of counsel (City's brief, p. 56) that the peak of high prices resulting from the World War passed in the year 1919, and that prices have declined since 1919 so that they no longer furnish any criterion for determining the questions in this case. Counsel assert that this court will take judicial notice that this is so, but we respectfully suggest that the case will be decided upon the record. The record shows that prices at the time of the trial in 1920, both for labor and materials, were very greatly in excess of those for the year 1919—the year as of which the property was valued and the case tried. Costs of labor and materials in the telephone business have not decreased on the whole since the trial.

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We respectfully submit that the appeal of the City is without merit and that the decree of the district court should be affirmed.

## PART II.

**Upon the appeal of the Southwestern Bell Telephone Company, plaintiff (Case No. 220).**

### Statement.

The court is referred to the statement set forth in the opening section of this brief.

After the City had appealed, the Company filed a cross appeal in which it assigned error, (1) upon the action of the trial court in sustaining certain of the City's exceptions to the report of the Master and (2) upon the provision of the decree which enjoins the City from interfering with the Company "in charging and collecting such rates as will not produce more than a fair return upon its capital actually invested", whereas the Company claims that the basis of the injunction should have been the fair value of its property used or useful in rendering the service.

It is essential that the Company call attention to the assignment last stated, and its other assignments of error dependent on it, to avoid the assertion, in any controversy that may hereafter arise, that the decree in the instant case as an adjudication binds the Company to an acceptance of investment instead of value for all time.

The matters involved in the Company's assignments of error are (1) the valuation of the property, (2) going concern value, (3) the amount of working capital, and (4) the amount of the annual depreciation.



### **The Company's Propositions.**

The Company maintains the following propositions:

#### **I.**

The Company's property is confiscated by the imposition of rates which prevent it from earning a fair return upon the fair value of the property used or useful in rendering the service. The provision of the merger ordinance, upon which the trial court relied in substituting the cost of the physical plant for this fair value, is void (Fourth, Fifth and Sixth Assignments of Error).

#### **II.**

The element of going concern value which exists in the property was improperly excluded (First Assignment of Error).

#### **III.**

Materials and supplies used or useful in rendering service are working capital and a part of the property upon which the fair return must be computed, and were improperly excluded (Second Assignment of Error).

#### **IV.**

The annual amount for depreciation should have been computed upon the value of the property instead of upon the cost of the physical plant (Third Assignment of Error).

**Assignments of Error.**

(Record, Vol. II, pp. 782-86.)

## 1.

That the United States District Court for the Southern District of Texas, Houston Division, erred in failing to overrule in said decree Defendants' fourth exception to the report of the Special Master and in sustaining Defendants' fourth exception to said report in setting aside the finding by the Special Master, that there should be included in the valuation of Complainant's property the sum of \$765,000.00 for that element of value over and above the value of Complainant's physical property, existing by reason of the fact that Complainant has an assembled and established telephone plant in the City of Houston, doing business and earning money, such value being referred to as going concern value, and in holding that the Complainant's agreement in accepting the merger ordinance of 1915 that the sum on which it should receive a fair return should be the capital actually invested, estopped Complainant from claiming any return upon such element of value, because said contract and agreement is in violation of, and prohibited by Article I, Section 17, of the Constitution of the State of Texas, prohibiting the granting of any irrevocable, or uncontrollable grant, franchise, privilege or immunity, and for the further reason that the court took as the capital actually invested the cost of the property as shown by Complainant's books and, as shown by the evidence, said books, in compliance with the Uniform System of Accounts prescribed by the Interstate Commerce Commission, showed only the original cost of the

physical property, and the order and finding of the court in eliminating the item of going concern value fails to permit Complainant to earn any return whatsoever upon said element of value, and is contrary to and not supported by the law or the evidence.

## 2.

That the United States District Court for the Southern District of Texas, Houston Division, erred in not overruling in said decree Defendants' fifth exception to the report of the Special Master, and erred in sustaining Defendants' fifth exception to the report of the Special Master, and in setting aside the finding of the Special Master that the proper allowance for working capital to be included in the valuation of Complainant's property is \$238,000.00, and in substituting therefor the sum of \$120,000.00, or a reduction of \$118,000.00, because, as shown by the evidence, there was included in the amount allowed by the Special Master the value of certain telephone supplies and materials that are, and must be kept on hand by Complainant to take care of repairs and contingencies, and the court's finding is based on Complainant's average monthly operating expenditures, which do not include the value of such supplies and materials, and the value of same are not included elsewhere in the report of the Special Master. And said order and decree is contrary to the law and the evidence.

## 3.

That the United States District Court for the Southern District of Texas, Houston Division, erred in failing to overrule in said decree Defendants' Eighth exception to the report of the Special Master and erred in sustaining Defendants' Eighth

exception to the report of the Special Master in setting aside the finding of the Special Master that Complainant was entitled to set aside out of its revenue a sum equal to 6.33 per cent. of \$5,500,000.00, the reproduction cost new of Complainant's physical property, as a reserve for depreciation, or \$348,150.00 for the year 1919, and substituting therefor the sum of \$289,380.00, the same being 6.33 per cent. of \$4,571,567.00, the actual cost of the property, or a reduction in the amount to be set aside as a reserve for depreciation of \$58,770.00, because the court used the original cost of the physical property as the basis for the reserve for depreciation, whereas the proper basis upon which the reserve for depreciation should be computed is the reproduction cost new of the physical property, and the finding of the court is contrary to, and not supported by the evidence.

#### 4.

That the United States District Court for the Southern District of Texas, Houston Division, erred in failing to overrule in said decree Defendants' Tenth exception to the report of the Special Master, and in sustaining Defendants' Tenth exception to said report in setting aside the finding of the Special Master that anything less than a return of eight per cent. upon the value of Complainant's property is confiscatory, and in holding that Complainant is only entitled to earn a fair return upon the capital actually expended by Complainant in the Houston plant, plus an allowance of \$120,000.00 for working capital, making a total of \$4,691,567.00 upon which the Complainant would be entitled to earn a fair return, instead of upon \$6,000,000.00, the fair value of the property, be-

cause the court's application of the fair return to which Complainant is entitled, is, and should be, based on the fair value of the property, and under the finding and holding of the court Complainant is being deprived of any return whatsoever upon the difference between the original cost of its physical property, plus an allowance of \$120,000.00 for working capital, and the fair value of the property, which difference amounts to \$1,308,433.00, and Complainant, by the finding of the court and under the terms of the decree entered by the court, is being deprived of an annual return of \$104,674.64, to which it is justly entitled, and the finding and holding of the court is contrary to the law and the evidence.

5.

That the United States District Court for the Southern District of Texas, Houston Division, erred in failing to overrule in said decree Defendants' Eleventh exception to the report of the Special Master, and erred in sustaining Defendants' Eleventh exception to said report in setting aside the finding by the Special Master that Complainant is not estopped to claim more than a fair return upon the original cost of its property, and in holding that Complainant specifically waived the right to claim anything more than a fair return on its capital actually invested in its Houston plant, or the original cost of said property, by the terms of Subdivision "E" of Section "I" of the ordinance passed by the City of Houston in 1915, and accepted by the Southwestern Telegraph and Telephone Company, Complainant's predecessor, authorizing the consolidation of the properties of the Houston Home Telephone Company and The Southwestern

Telegraph and Telephone Company in the City of Houston, and reading:

"The Southwestern Telegraph and Telephone Company agrees that it will not increase rates as at present charged by it for service in the City of Houston, unless it appears upon a satisfactory showing to be made before the City Council of the City of Houston, of all receipts and disbursements, and said showing must, in order to justify or warrant a raise in the rates, reasonably prove that there exists a necessity for an increase of charges in order that said Company may earn a fair return upon its capital actually invested in the Houston plant. And it is agreed for a term of five years from this date that a fair return upon said capital and investment is not less than 7 nor more than 8 per cent".

And in holding that said agreement constituted a contract binding upon the Complainant, because said contract, in so far as it attempts to fix the valuation upon which Complainant shall be entitled to earn a fair return, is contrary to, in violation of, and expressly prohibited by Article "I", Section 17, of the Constitution of the State of Texas, which provides that "no irrevocable or uncontrollable grant of special privileges or immunities shall be made; and all privileges and franchises granted by the Legislature, or created under its authority, shall be subject to the control thereof". And said contract is void and unenforceable, because the Legislature of Texas has never delegated to the City of Houston, and under the provisions of Article "I", Section 17, of the Texas Constitution aforesaid, the Legislature of Texas cannot delegate to the City of Houston the power to make said contract, because by the terms of said contract the City of Houston has attempted to and has

abandoned its police power and governmental authority and duty to regulate the rates to be charged by Complainant, to the end that Complainant shall only be permitted to earn a fair return upon the value of its property, which value at different times may be either in excess of or below the capital actually invested, and the finding and holding of the court is contrary to the law and the evidence.

6.

That the United States District Court for the Southern District of Texas, Houston Division, erred in providing in its decree of September 18, 1920, that the Defendants are restrained and enjoined from interfering with the Plaintiff in charging and collecting such rates as will not produce more than a fair return upon its capital actually invested, instead of restraining and enjoining the Defendants from interfering with Plaintiff in charging and collecting such rates as will not produce more than a fair return upon the fair value of the Plaintiff's property, because Plaintiff's capital actually invested in the Houston plant, as determined by the court, is \$1,308,433.00 less than the fair value of Plaintiff's property, and such order and decree of the court has prevented and is preventing Plaintiff from earning any return whatsoever upon the said difference, and Plaintiff is entitled to earn a fair return upon the value of all of its property being used in furnishing telephone service to its telephone subscribers in the City of Houston, and said order and decree is contrary to the law and the evidence.



## ARGUMENT.

### I.

**The Company's property is confiscated by the imposition of rates which prevent it from earning a fair return upon the fair value of the property used or useful in rendering the service.**

**The provision of the merger ordinance, upon which the trial court relied in substituting the cost of the physical plant for this fair value, is void.**

(Fourth, Fifth and Sixth Assignments of Error.)

The Master found that the fair value of the property was \$6,003,000 (R. I, 36) and that, to avoid confiscation, the Company was entitled to the protection of the court against the imposition of rates under which it could not earn a fair return upon that amount (R. I, 52).

The trial court, while apparently in accord with the Master as to the valuation, found the Company was bound to accept the cost of the physical plant in lieu of the fair value of the property. The court found the cost to be \$4,517,567 and substituted that amount for the Master's valuation (R. I, 36, 54).

The ordinance provision in question already appears in the statement, but for the convenience of the court we reprint it here:

"(e) The Southwestern Telegraph and Telephone Company agrees that it will not increase rates as at present charged by it for the service in the City of Houston, unless it appears upon a satisfactory showing to be made before the

City Council of the City of Houston, of all receipts and disbursements, and said showing must, in order to justify or warrant a raise in the rates, reasonably prove that there exists a necessity for an increase of charge in order that said company may earn a fair return upon its capital actually invested in the Houston plant. And it is agreed for a term of five years from this date, that a fair return upon said capital and investment is not less than seven nor more than eight per cent."

This provision of the ordinance is void, being in violation of Article 1, Section 17 of the Constitution of Texas. The decisions of this court in *San Antonio Traction Company v. Altgelt*, 200 U. S. 304, and *City of San Antonio v. San Antonio Public Service Company*, 255 U. S. 547, are decisive upon this point.

There is no controversy between the parties as to the invalidity of this provision of the ordinance. In paragraph 6 of the City's answer to the second count of the Bill of Complaint the City alleges as follows:

"\* \* \* that said ordinance was passed during a period of normal conditions and was intended to apply and should apply only to normal conditions, and that the City of Houston had no power by ordinance, contract or in any other manner to waive or surrender its right of police regulation over the said Southwestern Telegraph and Telephone Company, including its right to determine the rates which could be charged by the said Company" (R. I, 18).

While the City excepted to the report of the Master as to the valuation of \$6,003,000, its exceptions do not go to this point. The City does not contend that the ordinance provision is valid. Its excep-

tions to the valuation found by the Master go simply to the proposition that it is not supported by the evidence and to the proposition that the Master erred "in attaching more weight to the testimony of the value based on the reproduction theory than that based alone on the historical or cost value" (R. I, 46).

The Master held that this ordinance provision was in violation of the constitution and laws of Texas. The trial court agreed with the Master, but held that the Company was estopped to assert its invalidity (R. I, 53).

*Estoppel Was Not Pleaded and Was Therefore Waived.* This is the well settled rule in the federal equity courts. Instead of complying with the rule, and pleading that the Company had estopped itself to assert the invalidity of the ordinance provision and claim the right to earn upon the fair value of the property, the City has affirmatively pleaded that the ordinance provision is invalid. This ruling of the trial court was therefore unauthorized, and was error.

We shall show, moreover, that there could be no estoppel in this case.

The provision in question purports to bind the City and the Company to an agreement that, for the purpose of the regulation of rates by the City, the "capital actually invested in the Houston plant", which the court construed to mean the cost to the Company of the physical property in the plant, shall be at all times taken as the base upon which the City may not deprive the Company of the opportunity to earn a fair return. This provision, so construed, if valid, would be a plain

limitation upon the City's right to regulate rates, and a plain bargaining away of its police power in that regard, *pro tanto*. It might require the City to accept as this base more than value. See the City's argument on the \$754,000 item. This the Constitution of Texas does not permit.

Article 1, section 17 of the Texas constitution contains the provision that:

"\* \* \* no irrevocable or uncontrollable grant of special privileges or immunities shall be made; but all privileges and franchises granted by the legislature, or created under its authority, shall be subject to the control thereof".

This is the provision that was before this court for consideration upon the point now presented, in the cases cited, *supra*. Both cases presented the question of the validity, as against this section of the constitution, of the ordinance provision enacted by the City of San Antonio that "said street railway companies shall charge 5 cents fare for one continuous ride over any one of their lines, with one transfer to or from either line to the other."

In *San Antonio Traction Company v. Altgelt*, 200 U. S. 304, the Texas court had awarded a peremptory mandamus requiring the Traction Company to issue half fare tickets in pursuance of the City Half Fare Law adopted in 1903. This court, in denying the Traction Company's application for a writ of error to review the judgment of the Court of Civil Appeals of Texas, said, at page 308:

"Assuming, but not deciding, that the ordinance of March 16, 1899, extending the franchise of the San Antonio Street Railway, and imposing certain limitations, constituted a contract *pro tanto* the question still remains

whether the provision 'that said street railway companies shall charge 5 cents fare for one continuous ride over any one of their lines, with one transfer to or from either line to the other', constituted a contract with respect to which no further legislation upon that subject could be enacted without impairing its obligation. Even if construed as a contract, it was still subject to the provision of the Constitution of 1876, which, in Section 17 of the Bill of Rights, declared that no irrevocable or uncontrollable grant of special privileges or immunities should be made; but that all privileges granted by the legislature or created under its authority shall be subject to the control thereof."

At page 309 the court continued:

"It is true that in this ordinance it was provided that all rights and privileges previously granted to the street railway company and the Edison Company were conferred unto the traction company, including all the limitations, contracts, and obligations; but this ordinance must be construed in connection with the Constitution of 1876, which made all such privileges and franchises subject to the control thereof. Such was the view taken by the court of civil appeals of Texas in this case, which expressly waived the question whether the provision of the former ordinance fixing a 5 cent fare constituted a contract or not, declaring that if it did, it was subject to further legislative control."

In the case of *City of San Antonio v. San Antonio Public Service Company*, 255 U. S. 547, the Public Service Company in 1918 applied to the City for permission to increase its rate of fare upon the ground that, although the five cent fare was remunerative at the time it was fixed, it had become

inadequate because of increased cost of operation and could not be continued without confiscating the property of the company. The City refused to accede to a higher fare and the company brought suit in the United States District Court to enjoin it from enforcing the ordinance rate. From a decree in favor of the Public Service Company the City appealed to this court, where the decree of the district court was affirmed.

Discussing the question whether the ordinance provision constituted a valid contract as to the rate of fare which the City could enforce even though confiscatory, the late Chief Justice White, delivering the opinion of the court, said :

“Primarily the answer to that question must depend upon whether the ordinance of 1899 fixing the five-cent rate was a contract. That it was not, and could not be, we are of opinion is the necessary result of the provision of section 17, article 1, of the state Constitution, existing in 1899, prohibiting ‘any irrevocable or uncontrollable grant of special privileges’, etc., when considered in the light of the irrevocable and uncontrollable elements which must necessarily inhere in the ordinance of 1899 to give it the contract consequence relied upon. Indeed, this result is persuasively established by the ruling in the *Altgelt* Case, to the effect that, if the contract right were conceded, there would, in view of the constitutional restriction, be such an inevitable conflict between that right and the dominant power to regulate as to render the contract right inoperative, and therefore to cause it to perish from the mere fact of admitting its conflict with the authority to regulate.”

*In both of these cases the ordinance was contractual in terms and had been accepted by the utility*

*companies*. They are therefore on all fours with the case at bar.

A municipality cannot, merely by adopting an ordinance which is contractual in form, foreclose the exercise of its regulatory power.

*Puget Sound Traction Company v. Reynolds*, 244 U. S. 574, 578-9.

*Pawhuska v. Pawhuska Oil Company*, 250 U. S. 394.

Rates fixed in a franchise ordinance by a city without authority to make an irrevocable contract are subject to the exercise of regulatory powers conferred upon the city by the legislative enactment. In the absence of clear authority the city cannot abridge its own legislative powers.

*Wyandotte Gas Company v. Kansas*, 231 U. S. 622.

*Southern Iowa Electric Co. v. Chariton*, 255 U. S. 539.

In the case last cited the court says (at p. 546) :

"The total want of power of the municipalities here in question to contract for rates, which is thus established, and the state public policy upon which the prohibition against the existence of such authority rests, absolutely exclude the existence of the right to enforce, as the result of the obligation of a contract, the concededly confiscatory rates which are involved, and therefore conclusively demonstrate the error committed below in enforcing such rates upon the theory of the existence of contract. And, indeed, the necessity for this conclusion becomes doubly manifest when it is borne in mind that the right here asserted to contract in derogation of the state law and of the rule of public policy announced by the court of last resort of the State is urged by municipal corporations whose every power depends upon the state law."



In the instant case the trial court recognized the law of these decisions of this court and that they applied to the ordinance provision here in question, and that the provision is void (R. I, 53), but held that the Company, by proceeding under the ordinance, was estopped to assert the invalidity of the contract which the ordinance purported to create.

The effect of this holding was to render this provision of the ordinance a contract binding upon the company, when under the constitution of Texas it was wholly void as a contract and therefore never binding upon either the City or the Company.

The conclusive answer to the proposition and holding of the trial court is the elementary principle—a part of the doctrine of estoppel—that *an estoppel is bound to be mutual*. There can be no estoppel which is not mutual. The same rule which accords the benefits of the estoppel to him who invokes it, equally visits its burdens upon him. He cannot claim in favor of the estoppel and against it at the same time. He is as fully bound to the status or condition produced by the estoppel in his favor as is the party against whom the estoppel operates. An estoppel could not be binding upon the party whom it adversely affects, and yet leave the party claiming its benefits free to repudiate the consequences which the estoppel produces.

It follows that if by the force of an estoppel the ordinance became binding upon the Company as a contract, the mutual operation of the estoppel made it likewise a contract binding upon the City. Otherwise, there would be no mutuality and so no estoppel.

The municipal bond cases are in point. Recitals in the bond are ineffectual to estop the municipality from denying that the bond was issued in violation of the provisions of the constitution. The principle

upon which these cases go is applicable here. The City is not estopped to assert its lack of constitutional authority to bind itself by this ordinance provision and to assert the invalidity of the provision upon that ground. Since the City is not bound it cannot be held that the Company is bound, either contractually or by way of an estoppel.

*Dixon County v. Field*, 111 U. S. 83;  
*Lake County v. Graham*, 130 U. S. 674;  
*Sutliff v. Lake County Commissioners*, 147  
 U. S. 230.

The argument that there is an unilateral obligation in the nature of a contract binding upon the Company, or that the Company, having accepted the benefits of the consolidation, is estopped to deny the existence of such a contract, cannot be maintained.

The same objections were raised in the *San Antonio* case, but were overruled, the court saying (at p. 556) :

"The duty of an owner of private property used for the public service to charge only a reasonable rate and thus respect the authority of the government to regulate in the public interest, and of government to regulate by fixing such a reasonable rate as will safeguard the rights of private ownership, are interdependent and reciprocal. Where, however, the right to contract exists and the parties, the public on the one hand and the private on the other, do so contract, the law of the contract governs both the duty of the private owner and the governmental power to regulate. Where, therefore, as in the case supposed in the argument, the regulating power of government wholly uncontrolled by contract, it would follow that that power would be required to be exerted and hence the supposed condition operating upon

the private owner would be nugatory. Such a case really presents no question of a condition, since it resolves itself into a mere issue of the exercise by government of its regulatory power."

Confiscatory rates cannot be enforced except by virtue of a contractual obligation. But a necessary element of the contractual relationship is mutuality. An attempted contract which is beyond the capacity of one of the parties is void, and *partial performance of an invalid contract will not create a valid obligation.*

As was said by this court in *Central Transportation Co. v. Pullman's Car Co.*, 139 U. S. 24, 59-60:

"A contract of a corporation, which is *ultra vires*, in the proper sense, that is to say, outside the object of its creation as defined in the law of its organization, and therefore beyond the powers conferred upon it by the legislature, is not voidable only, but wholly void, and of no legal effect. The objection to the contract is, not merely that the corporation ought not to have made it, but that it could not make it. The contract cannot be ratified by either party, because it could not have been authorized by either. No performance on either side can give the unlawful contract any validity, or be the foundation of any right of action upon it."

See also *Pullman's Car Co. v. Transportation Co.*, 171 U. S. 138, 149 *et seq.*

Under these circumstances the provision in the ordinance of 1915 fixing rates *pro tanto* operates simply as an act of regulation, binding upon the Company only until modified by subsequent act of regulation, or until the Company refuses to be bound owing to a change of conditions that renders them confiscatory.

The power to regulate rates imports a correlative obligation. An exercise of the continuing regulatory function, as was pointed out in the *San Antonio* and *Chariton* cases, will not give rise to an unilateral obligation by way of contract or estoppel for the purpose of defeating the declared public policy of the state.

The policy of the state as to regulation by municipalities, evidenced by the statutes already quoted (p. 59), fixing 10% as the minimum return to result from such regulation, could be overturned if such a contract could be made by an estoppel or in any other way.

## II.

**The element of going concern value which exists in the property was improperly excluded.**

(First Assignment of Error.)

The Master recognized going concern value as an element of value existing in the property of the Company, in accordance with the holding of this court in *Des Moines Gas Co. v. City of Des Moines*, 238 U. S. 165, and *Denver v. Denver Union Water Co.*, 246 U. S. 178. He found that this element of value was \$765,000 and accordingly included that amount in his final valuation of \$6,003,000 (R. I, 36).

The trial court, having held that the cost of the physical property must be substituted for its fair value by reason of the provision of the merger ordinance discussed in the preceding section, ex-

cluded this element of going concern value. He said:

"In the statements previously filed with the City of the valuation of its property, it does not appear that any going concern value had been included, and it seems clear that none was contemplated in the merger ordinance" (R. I, 54).

He indicates disagreement with the Master as to the amount of going concern value, if it were to be allowed, but rejects it altogether upon the ground stated.

The amount allowed by the Master is substantially below the lowest figure testified to by any witness for the Company, and according to our judgment is a less sum than should have been found, although the Company did not except to the master's report upon this item. On the part of the City, its witness Kelsey testified that he did not recognize going concern value (R. II, 1048). And its other witness Lyndon, without attempting to compute the amount, hazarded \$75,000 as his guess as to the proper amount (R. III, 1660-1; also 100-101).

Since the trial court, for the reasons stated, made no finding as to the amount, it would serve no purpose to discuss the evidence in detail bearing upon it.

If this court sustains our first proposition and holds the merger ordinance provision invalid and that the trial court erred in taking cost in lieu of value, then, of course, the action of the trial court in excluding this item altogether must be held to have been error.

### III.

**Materials and supplies used or useful in rendering service are working capital and a part of the property upon which the fair return must be computed, and were improperly excluded.**

(Second Assignment of Error.)

There is no question of the obligation to include working capital in the valuation. The question is simply as to its amount.

The Master allowed working capital in the sum of \$238,000 (R. I, 36). The trial court reduced this to \$120,000 (R. I, 55).

As we understand what the trial court says upon this subject (R. I, 55), his error here arose out of the fact that he took into account only the average amount of cash spent monthly by the Company, and disregarded altogether the fact that the supplies and materials, which the Company had on hand and carries currently, constitute a part of the Company's property devoted to the public service and are included in working capital. It is true that the court first speaks of supplies necessary to meet contingencies (which would be only a part of the total materials and supplies) as being a part of working capital, but it seems fairly clear that he afterwards disregarded this item altogether and made no allowance on account of it.

The point we raise upon this assignment is, therefore, one of law. If the amount allowed by the trial court was only the cash item and represents nothing on account of materials and supplies, which the uncontradicted proof shows the Company had and required in its business, then the court committed error.

#### IV.

**The annual amount for depreciation should have been computed upon the value of the property instead of upon the cost of the physical plant.**

(Third Assignment of Error.)

The Master found 6.33 per cent. of the value of the property, or \$348,150, as the amount to be allowed on account of annual reserve for depreciation (R. I, 41).

The trial court adopted the report of the Master as to the rate of 6.33 per cent., but held that it must be applied to the investment or cost of the property, not to the value. This was pursuant to the court's decision that the Company was bound by the merger ordinance to accept cost in lieu of value. The court, moreover, expressed the opinion that 6.33 per cent. would be too high a rate if applied to the value found by the master (R. I, 58).

The error of the court here arises out of the fundamental error of taking cost in place of value. If this court sustains our position upon this fundamental proposition, then this assignment of error must also be sustained. The result is, therefore, that this assignment of error turns upon a question of law, and it is for this reason that we do not discuss the evidence.

Respectfully submitted,

NELSON PHILLIPS,  
C. M. BRACELEN,  
W. H. DULS,  
N. T. GUERNSEY,

Solicitors for Plaintiff.



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# Supreme Court of the United States

OCTOBER TERM, 1921.

No. 219

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THE CITY OF HOUSTON,  
Appellant.

vs.

SOUTHWESTERN BELL TELEPHONE COMPANY,  
Appellee.

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SOUTHWESTERN BELL TELEPHONE COMPANY,  
Appellee.

vs.

THE CITY OF HOUSTON,  
Appellee.

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APPEAL FROM THE DISTRICT COURT OF THE  
UNITED STATES FOR THE SOUTHERN DISTRICT  
OF TEXAS.

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SUPPLEMENTAL BRIEF ON BEHALF OF THE  
APPELLANT, CITY OF HOUSTON.

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The appellee, Southwestern Bell Telephone Company, hereinafter in the interest of brevity called "the Company," has filed a brief in which is set out its reply to the brief heretofore filed by the appellant, City of Houston, hereinafter called "the City," and also the assignments of error, propositions and argument in support of the Company's cross-appeal.

Before answering the Company's propositions in support of its cross-appeal, we desire to reply briefly to its argument in answer to the brief filed by the City and correct some statements contained in such argument which we con-

ceive to be inaccurate. In this reply, we wish to add nothing to what we have said, in our original brief, regarding the property cost, the rate of return, and the annuity for depreciation, but will confine our remarks to the revenues and expenses, the  $4\frac{1}{2}$  per cent deducted by the A. T. & T. Co., the long distance tolls, and the relations of the operating company with the manufacturer, the Western Electric Company.

### EXPENSES AND REVENUES.

The Company (Its brief, pp. 13 to 19, inclusive) presents the proposition that allowing all the contentions of the City, nevertheless the rate fixed by the ordinances and sought to be enjoined is confiscatory, and undertakes to support this proposition by four tables set out in its brief. The proposition ignores two important elements.

1st. That the operating expenses were for parts of the years 1919 and 1920, at the very peak of prices, and the cost of labor and material had advanced to a point never before known in the history of the country, but that the cost of material and labor has since the middle of 1920 greatly declined, in many instances to normal and below pre-war prices. Decline in prices of all material is bound to follow decline in prices of the great staples of the world. The great staples have declined. Cotton from 40 cents in 1920 to 15 cents now; oil from \$3.00 per barrel in 1920 to \$1.00 now; wheat has greatly declined. Copper, a great staple, and largely used in telephone construction, is, we understand, practically at the pre-war price. Lead, also greatly used in the telephone business, is practically at the pre-war price. Pig iron, regarded as an index to price levels in the industrial world, has dropped 50 per cent or more in the last year. Lumber has declined in about the same proportion. Also steel. Wages are being cut all over the country. At this time instead of there being more jobs than there are laborers, as was the condition at the time of the trial, there are many more laborers than there are jobs. Workmen throughout the country are clamoring for employment. Not only have wages been very considerably reduced, but

the efficiency of labor has greatly increased. The court will take judicial notice of these facts. *Lincoln Gas. & E. L. Co. vs. City of Lincoln*, 230 U. S. 255, 64 Law Ed. 968. The company, although it objects to our suggestion that the court will take such judicial notice of these matters, made in support of our Ninth Assignment of Error (our brief p. 56) wherein we erroneously state that the peak of prices was reached in 1919 instead of 1920, invokes the same rule on page 7 of its brief, wherein it is stated that the fact that everything increased as a result of the World War "is a matter of common knowledge."

The Company states in its brief (p. 106), in this connection, that costs of labor and materials in the telephone business have not decreased on the whole since the trial. This is strange. Everything else has decreased, including material and labor in every other industry. If there is any competition in the purchase of telephone equipment and supplies, why should not such materials and supplies also decline?

2nd. All material and supplies were purchased, without competitive bidding, from the Western Electric Company, which, as fully shown in our original brief, is owned by the same company that operates the Houston telephone exchange, i. e., the American Telegraph & Telephone Company, hereinafter referred to as "the A. T. & T. Co." The room for profits in the purchase of material used in the operation of the plant and the extensions is, as we think we have shown in our original brief, sufficient to overcome any deficit and show a reasonable return. At any rate, until it is fairly shown what the profits resulting from the purchase of such material and supplies amount to, it cannot be said that the amounts collected from the people of the City of Houston directly and indirectly are not sufficient to afford such return upon the investment. For further discussion of this matter, we refer to our original brief, pp. 41 to 55, and also to pp. 11 to 19 of this brief.

**CREDIT TO THE EXCHANGE FOR TOLL SERVICES.**

It would appear from the Company's brief, pp. 24 to 27, that we are contending that the people of Houston are required to pay a return upon the property that is distinctive toll property. We are making no such contention. We clearly understand that the property used exclusively for toll purposes, although it is located within the limits of the City of Houston, is not included in the property which it is claimed is being confiscated. Our contention is, as we flattered ourselves we made clear in our original brief, that the property used in operating the local exchange is also used in another capacity, that of helping to earn the long distance tolls. Not that it is the only property used in earning these tolls, but that it is also used in connection with the distinctive toll property. Further, that the value of the distinctive toll property is small when compared with the value of the use of the local property for the purpose of earning these tolls. Again, we do not mean to say that the value of the entire toll property is small when compared with the local property. Let us endeavor to make ourselves clear. There is a net-work of long distance toll lines running all over and across the State of Texas, connecting the larger cities of Houston, Dallas, San Antonio, and Ft. Worth, as well as the hundreds of smaller cities and towns. Each of these cities and towns are originating and terminating calls for the toll lines. Now prorating the value of the toll lines to all these cities and towns upon any fair basis, such, for instance, as the value of the local property, the value of that part of the toll lines so apportioned to each city, town or village would be small when compared with the local property, or even to the value of the use of such local property in originating and terminating the long distance calls. So, then, to state it again, our proposition is that while the company has even within the limits of Houston certain property that is distinctive toll property, it is, in addition thereto, using every bit of the local property in earning its long distance or toll revenues. Not only is this true, but the principal distinctive toll property, the switchboard, is housed in a building charged to the local exchange, and,

moreover, a great part of the expense in handling these long distance tolls is charged as local exchange operating expense. Now we say that this condition being created by the company, it has not on any basis that can be characterized as reasonably accurate, undertaken to say how much the use of the local property in handling these long distance tolls is worth, what rent it should pay for using the building of the local exchange for housing the distinctive toll property, and the toll operators and employees, or what it costs the local exchange to originate and terminate these calls and to perform such other services as it does perform in connection therewith. It, as stated in our original brief, simply arbitrarily credits the local exchange with 25 per cent of the outgoing calls without showing or attempting to show that it even pays the cost of the services performed by the local operators in handling these calls, and with affirmative testimony on the part of the City showing that it does not do so, as we have shown in our original brief. This would leave no compensation for the use of the local property in handling the long distance tolls.

Having failed to make any showing as to what would be a fair division of the tolls, considering the elements entering into such problem, such as the value of the use of the local property for toll purposes, the rental for the building used for the long distance equipment and its employees and the cost incurred by the local exchange in handling these calls, the company seeks to justify the 25 per cent allowance on account of the agreement having been entered into in a number of instances; but we say again such contracts are no evidence of the fairness of this transaction with the Bell System owning four-fifths of the telephone companies in the United States and owning large amount of stock in other so-called independent companies. The freedom of contract is destroyed and the instances cited reflect, after all, only the desires and policies of the Bell System, which is owned and controlled by the A. T. & T. Co., which also owns and controls the company furnishing not only the long distance service, but also, the local service to the people of the City of Houston.



The Company (its brief p. 31) says:

"The City has no power to regulate rates for toll services which extends outside the City and throughout the State of Texas and throughout the country."

This is true. We have never contended otherwise. However, the question presented here is one of confiscation. If the property of the local exchange, as well as its employees, are, in addition to furnishing local telephone service, engaged in another enterprise which yields other and additional returns, then, manifestly, it is not fair to make the people of the City of Houston pay a return upon the full value of the property so used or to permit the operating expenses, incurred in such additional enterprise, to be deducted from the revenues earned by the local exchange, and the City Council, in fixing rates, would have the right to take into consideration the additional use which was being made of the property, and to deduct from the operating expenses the expenses incurred in the other enterprise, and if the rates were sufficient after deducting only the portion of the expenses actually incurred in operating the local exchange to pay a fair return upon the value of the property properly depreciated, on account of the additional use, this clearly would not amount to confiscation. We are not speaking now of distinctive toll property. We are speaking of the local exchange, but say that the value of that, as distinguished from the distinctive toll property, should be depreciated on account of the additional use to which it is being put.

The Company says that the deviation of the tolls cannot be made upon any accurate basis. We think a reasonably accurate adjustment could be made, such, for instance, as depreciating the local exchange property to the extent it is being used in the long distance enterprise, but be this as it may, the plaintiff is here claiming confiscation, and it will not do for it to say that it is not able to determine how much of the property of the local exchange is being used for the toll service, or how much expense is incurred by the local exchange in handling the long distance tolls.

**THE FOUR AND ONE-HALF PER CENT DEDUCTION  
UNDER WHAT IS TERMED THE AMERICAN  
TEL. & TEL. CONTRACT.**

Counsel for the Company in their brief, page 40, make the following statement:

"The City does not suggest that the contract should be abrogated and the services dispensed with. It does not question that the services are fully worth to the Company the amount of the payment. That they are of great advantage to the Company. That they are necessary to enable the Company to render efficient and economical telephone service to the public, and that they cannot be obtained anywhere else for less than this payment amounts to. The City's sole contention is that because the American Co. owns the stock of the Southwestern Co., it should render the service at cost, and if the Southwestern Co. did not show what the cost to the American Co. was, there was a failure of proof essential to the cause of action."

Counsel are mistaken. The record shows (pp. 487-519) that the City did question the necessity for the services other than the use of the induction coils, transmitters and receivers, and also questioned the services being worth the amount deducted by the plaintiff, also it questioned the fact that such services were of great advantage to the Company and that they were necessary to enable the Company to render efficient and economical telephone service. The witness Kelsey testified that the services were of no particular value to the operating plant, that the organization was an efficient one for the purpose of carrying on the many enterprises of the A. T. & T. Co., but that it was a burden upon the operating branch. (Record pp. 487-549.) The City undertook to determine from the plaintiff's witness what the Houston exchange received in return for the 4½ per cent deducted, but was unable to discover where any services of any material value were rendered to the Houston exchange. The plaintiff claimed that they had developed many patents, but under cross-examination it was discovered that there were no patents used in the operation of

the local exchange that were protected. (Record pp. 376-378.) They claimed that they furnished engineering services, but it was also disclosed upon cross-examination that the operating company, Southwestern Bell Telephone Company, had a competent corps of local engineers in Houston, another corps of engineers known as the state engineers and his force in Dallas, Texas, and a district engineer, with his force located in St. Louis. (Record pp. 198-199.) None of these were in any manner paid out of the 4½ per cent. It was claimed in a general way that they aided in the accounting, but nothing definite was shown. It was claimed also that the A. T. & T. Co. helped finance the operating company, but, as we have shown, it being the owner of such company, it is difficult to see where it was entitled to compensation for financing, if, indeed, it did so. There is some testimony in the record to support the proposition that this so-called standardization is detrimental to the operating company (Record p. 492.) and it would seem ordinary human experience would support such testimony. Under this system there is no pride of local ownership, much less any incentive in the way of increased profits for the local operators to build up the plant and improve the service, the local operating force under this system become mere figure-heads, having not even the power of a high-class subordinate. General rules, which should be relaxed, in the exercise of proper discretion to meet local conditions, cannot be relaxed. All changes, even those involving the necessity for quick relief from objectionable conditions, if relieved at all under this system, must be in pursuance of a long and tedious course from one subordinate to another until it reaches the executive officers of the entire system. The result is over-standardization, lack of interest in the local property and the setting in of "dry rot." Without conceding that the so-called services are worth the amount which is deducted in consideration of them, but asserting that the contrary is the fact, we reiterate that regardless of these questions, the cost only of such service should be deducted from the operating expenses. Why this indirection? The A. T. & T. Co. owns the operating exchange as

well as many others to which it claims to render this service. This record shows that the company is very adept in the matter of allocations, and it should at least be able to determine the entire cost of this service, and allocate to the different local exchanges their proportionate part in the same manner it allocates so many other general charges. That it does not do so is, within itself, sufficient to show that there is a purpose in this indirection. By it the real owner of the exchange gets a revenue which it has failed to analyze, and if this character of practice is permitted the power to regulate is destroyed.

#### **RELATIONS OF THE WESTERN ELECTRIC COMPANY, MANUFACTURER, WITH THE OPERATING COMPANY.**

As stated in our brief, the A. T. & T. Co. owns both the manufacturer, the Western Electric Company, and the Southwestern Bell Telephone Company, the operating company, in the sense that it owns practically all the stock in both these companies. This is not denied. In its discussion of the City's assignment of error complaining of the deduction of the  $4\frac{1}{2}$  per cent under the so-called A. T. & T. Service Contract, the company advances the proposition that it also advances here that the Western Electric Company, the manufacturer, and the Southwestern Bell Telephone Company, the operator, are separate legal entities, and the fact that practically all the stock of both companies is owned by another company does not impair the right of the manufacturing company and the operating company to contract with one another, and cite many cases to support this proposition. We do not propose to discuss the question of whether or not these two companies are technically separate legal entities. We are content to invoke the exception announced by the cases cited by the company on p. 43 of its brief, which is:

"That to correct and prevent a wrong, courts have announced seeming exceptions to the rule broadly stated as (1) that the separate corporate existence will

be used as a legal fiction and disregarded when necessary under such conditions to remedy some wrong, and (2) that under such conditions it may be disregarded if a corporation is so organized and controlled and its affairs are so conducted as to make it merely an agency, instrumental or department of the stockholding corporation."

What stronger facts would be necessary to invoke the exception to the rule above referred to, announced by the adjudicated cases and conceded by counsel for the Company? Here we have the A. T. & T. Co. owning practically all the stock in another company which operate a large system of telephones, including the Houston exchange. Owning also practically all the stock in the Western Electric Company, which furnishes all the material for constructing such telephone exchange, as well as all material and supplies for the operation of same. Not only this, but it has practically monopolized the telephone business of the United States, as well as the business of furnishing material and supplies for the construction and operation of such telephone business. The owner of both these companies through its instrument, the operating company, is permitted to collect directly from the public whom it serves certain charges for telephone service. Through its other instrument, the manufacturer, it furnishes to the operating company all the material for the extension and operation of its plant. If the prices charged for such material and supplies are not fair and reasonable, the A. T. & T. Co. exacts from the public indirect charges in addition to the direct charges above referred to in the following manner: first, if the plant is constructed or extended out of material purchased at excessive costs the amount necessary to show a return upon the inflated value would be more than it would be to show a return upon the fair value, thus requiring a greater charge for the service; second, if the material and supplies used in the operation of the plant are furnished at excessive prices the operating expenses will be thereby increased, correspondingly reducing the net returns and thereby increasing the charges necessary to show a net

return upon the property devoted to the public use. All the money thus received, both that from the direct charge and that from the indirect extortion, finds its way into the treasury of the A. T. & T. Co. through its two conduits the Western Electric Company and the Southwestern Bell Telephone Company. If the material for the construction and extensions of the local Houston exchange and the material and supplies for its operation are furnished by a company owned by the A. T. & T. Co. to another company which it also owns, at excessive prices, does this not create such conditions as make it necessary "to remedy some wrong," and do not the facts above stated show that the Western Electric Company and the Southwestern Bell Telephone Company are so "conducted as to make them merely agents, instrumentalities or departments of the stock-holding corporations?" If so, these are the things that invoke the exception referred to by counsel. We reiterate that the court will not look merely to the form of this matter and ignore the substance.

We do not base our contention upon the proposition alone that the mere creation of this relation is sufficient to deny the company equitable relief, although we think it should. On the bare ground of public policy. It is against a sound public policy to permit such relations. It not only tempts those who are so engaged to impose upon the public, but it creates a condition where it is almost impossible for the public to determine the extent of the imposition. However, this aside, the Company should have made a full and fair disclosure regarding the dealings between the manufacturing and operating branch. This it has failed to do. Upon the other hand, the City has shown that, as a result of this relation, the public is being required to pay excessive prices for the material and supplies that go into the operation of the plant, thereby depreciating the revenues that could be otherwise used for paying a return upon the property, such property being also inflated by the excessive cost of the material used in constructing and extending it.

We submit that a review of the Company's testimony set out in its brief confirms and corroborates the statement

contained in the City's brief that no fair disclosure was made concerning the relations with the Western Electric Company. Such evidence is all of a general character by witnesses not in position to know the facts. There is no testimony upon the part of any executive or other officer of the Western Electric Company that has to do with the manufacturing of material and supplies. There are no books or records of the Western Electric Company in evidence, merely general statements of the Company's employees and certain expert valuation engineers. We wish to correct some statements contained in the brief of the Company which we regard as erroneous. While the witness, Mr. Cox, an employee of the A. T. & T. Co. was testifying and it developed that the Western Electric Company was furnishing practically all the material and supplies to the Houston exchange, and such witness was claiming that the arrangement was advantageous to the operating exchange, he volunteered the statement that the profit of the Western Electric Company on its manufacture of such material and supplies was 8 per cent. The Company on page 95 of its brief undertakes to show that this statement was not a voluntary statement of the witness but that it was elicited on cross-examination. As is shown by the questions and answers set out on page 95 of the Company's brief, the witness first stated that he was there to state that the power the A. T. & T. Co. had in regard to furnishing materials and supplies was not abused, and he was asked by counsel for the City whether he could testify in a general way only or whether he could give the figures such as had been referred to and the expense bills of the manufactured products, thus showing that he was asked merely in regard to the character of his information, whereupon he volunteered the unsupported statement that the profit of the Western Electric Company was 8 per cent.

Counsel for the Company, on pp. 101 and 102 of their brief, undertake to show that the testimony of the witness Kelsey, who compared the price of a switchboard furnished by the Western Electric Company with the price of such a board if purchased from other companies, was that



the price that would be charged by companies other than the Western Electric Company was \$600,000.00 as against \$752,000.00 charged by the Western Electric Company, and not as against \$1,027,000.00 as stated in the City's brief, and counsel follow this statement with the following statement:

"The statement of the City's claim should be corrected accordingly."

We have again referred to the testimony of the witness Kelsey and find that it supports our statement that the figure of \$600,000.00 of the independent companies is as against \$1,027,000.00 charged by the Western Electric Company, and not as against \$752,000.00 as stated in the Company's brief. We set out the following testimony bearing upon this question:

"Q. What other equipment, as set up in that inventory, is furnished by the Western Electric Company?

A. They have them all in there, I imagine. The central office equipment, that's in there, and current things, subject to all of these contingencies and omissions, engineering expense, general expense, taxes during construction. When that is built, contracted to be put in here and installed, I don't think that it is subject to the same treatment that the rest of the plant is; that apparatus is put in under a contract-fixed prices and—

Q. (Interrupting.) But all of these charges, for instance, Preston central office, they are all included in the \$750,000.00?

A. They have got other charges in there; 3½ contingencies and omissions, engineering expense—

Q. (Interrupting.) Over and above the \$750,000.00?

A. Yes.

Q. How much will that amount to?

A. Well, that is the total of all of them, but then this board—contingencies and omissions, \$139,667.00; engineering expense, \$191,000.00; general expense, \$99,741.00. You can easily conceive the engineering expense in your distributing system because it is built by the people here.

Q. But all that is included in the total of \$752,000.00?

A. No, they are all added to that.

Q. As I understand you, then, in this comparison which you have just made, where you say the Preston, which

includes also the Capitol, would amount to around \$600,000.00?

A. Yes.

Q. By that you mean that by an independent company it would reasonably cost to manufacture, plus the manufacturer's profit, \$600,000.00 as compared to \$752,000.00?

A. Yes.

Q. And that the Company has added to that a lot of engineering and contingency charges?

A. Yes, they added that in addition when that is a contract proposition.

Q. Now, your figure of \$600,000.00, that's a contract proposition, and that includes contingencies and omissions and engineering?

A. To install that board, set up in active operation, fully tested out and up to specifications. You can't subject all these switch boards and instruments to the same thing that you do all other construction.

Q. After they add to that the \$752,000.00, what figure do they get on the central office equipment?

A. They add 3%, that's about \$22,500.00; 4%, which is \$30,000.00, and 3%. In other words, they add 50% before they get done with it,—add 50% to that switch board price.

Q. Which would make a total of about how much on that?

A. Well, that would run that up to almost a million dollars alone.

Q. As distinguished from \$600,000.00?

A. Yes, sir.

Q. As the reasonable cost of installing it?

A. Yes.

Q. Now, Mr. Kelsey, just touch briefly on overheads, omissions, and contingencies and that sort of thing. Manufacturers of telephone equipment, where there is competition, will install that under a guarantee, put it up and test it out and eliminate any necessity for contingencies, omissions and supervision?

A. Always have done that.

Q. And the prices you spoke of awhile ago include all of these things?

A. Everything.

Q. That same thing runs through all the other exchanges, does it not, and about the same percentage?

A. Yes, it does. \* \* \* \* \* (Record, pp. 719-721.)

Again, on pages 723 and 724, he says:

Q. I am talking about central office equipment. You stated you put that in for \$600,000.00?

A. Well, they would add about 20%.

Q. And then a lot of added overcharge?

A. Well, added charges; it's in there in big type.

Q. And you stated a while ago that it would run up over a million dollars?

A. Yes, its added 50% indirect to the direct.

Q. I want you to make the calculation for Mr. Frank. You stated awhile ago, I believe, that the central office equipment was reasonably worth to manufacture, plus the manufacturer's profit, \$6,000,000.00?

A. \$600,000.00.

Q. But as set up here in the inventory, after adding all these loading charges, it runs up over a million dollars, and I want to know this for Mr. Frank's benefit, what increase \$1,000,000.00 is over \$600,000.00 in percentage?

A. About 48%.

Q. Well, it is more than that on these figures. Just figure it out what per cent 600,000 is—what increase 1,000,000 is over 600,000.

A. It runs over to \$1,027,000.00.

Q. Well, what increase would that be over \$600,000.00 in per cent?

A. Well, of course, it practically doubles it.

Q. Now, that would hold practically the same per cent upon all the material manufactured by the Western Electric Company and sold to the operating exchanges.

A. It would. There is no check or no restraint,—they make the prices; there are no salesman required and no competition.

Q. They buy from one company,—one company owns both companies?

A. There is no limit to the extravagance and they may wreck it; they have no limit and no restraining hand to hold them and they spare no expense.

Q. Do you know anything about the earnings of the Western Electric Company, Mr. Kelsey?

A. It has been one of the most profitable concerns in the whole world.

Q. Do you know of any substantial amounts in the gross value of the stock?

A. I don't think that any company in the world has paid the stock dividends and has the amount of earnings. I know of a stockholder, the Kellogg family,—they sold some-

think like \$800,000.00 worth of stock which originally cost Mr. Kellogg, the father, in the '70's—the family got \$200.00 for every dollar that he put into the Western Electric.

Q. And they made it out of the profits of manufacture.

A. Oh! absolutely telephone manufacture.

Mr. D. A. Frank: A \$4,000.00 investment brought \$800,000.00?

A. Yes, sir.

After all that has been said, we feel that it almost idle to try and weigh the testimony relating to this matter as disclosed by the record, for it is known by all men that the Western Electric Company is a great monopolistic corporation that, from a modest beginning, without the addition of new capital, and through the instrumentality of stock dividends, has assumed gigantic proportions. Its enormous profits aside from being shown by the record (p. 724) are as much a matter of common knowledge as is the growth, through stock dividends, of such corporations as the Standard Oil, the United States Steel and Ford Motor Car Company. These things are generally known and courts will not be blinded to them, but will, we submit, take judicial notice of them. The growth of companies such as those above referred to and the profits realized by them are a part of the history of this country. As disclosed in the case of Dodge vs. Ford Motor Car Company, 170 N. W. 668; 3. A. L. R. 413, they are such as to stagger the imagination. We, of course, have no concern here with the last mentioned companies and have referred to them only by way of illustration, and say that in their history is found the parallel of the history of the Western Electric Company, is a matter of common knowledge. The only difference being that such companies other than the Western Electric Company sell their commodities to those who voluntarily purchase them, whereas, the Western Electric Company furnishes its commodities to a public service corporation from whom the public are compelled to purchase service, burdened with the enormous profits and earnings of the Western Electric Company. In face of these conditions, how flimsy is the testimony of the Company, contained in the record, that it purchases as cheaply from the Western Electric

Company as it can purchase elsewhere. In the face of this history, for this plaintiff, involved as it is in a relation which has been denounced by Congress as criminal, to be granted relief in a court of equity, thereby enabling it to reap the fruits of its criminal relation merely by saying, contrary not only to the proof but also to history and common knowledge, that it has acted fairly, in equivalent to destroying the power of the public to regulate it. For, of course, it can always bring forward such testimony as it has brought forward in this case.

But counsel for the Company says it does not come within the criminal provisions of the Clayton Bill, because it is not a common carrier and because it is not "interlocking." We do not propose to follow counsel in any discussion as to whether or not the fact that practically all the stock of both the manufacturing company and the operating company is owned by the same Company makes them "interlocking," or whether a company engaged in transmitting messages is a common carrier within the meaning of the Clayton Act. If not within the letter, the A. T. & T. Co. is at least within the spirit of this law. This should operate as effectually against it when seeking in a court of equity equitable relief, such as it is here seeking, as if it was within the letter of the criminal statute.

## **PART II.**

### **REPLY OF THE CITY TO THE COMPANY'S ASSIGNMENT OF ERROR IN SUPPORT OF ITS CROSS-APPEAL.**

We will reply to these assignments in the order in which they appear in the Company's brief.

The Company's Fourth, Fifth and Sixth Assignments of Error, its brief page 115, are grouped and present the proposition that the trial court erred in giving force to the provisions of the merger ordinance by substituting the cost of the Company's property for its fair value.

The first contention of the Company in support of the proposition presented by the above assignments is that the

City did not plead that the Company was estopped by the merger ordinance from asserting any value on its property other than its cost, and, therefore, the City's defense of estoppel was waived. Counsel are mistaken in this statement. Such estoppel was pleaded. (Record pp. 26 and 27.)

Without stopping to discuss the question of whether or not the trial court erred in holding that the Company was estopped to deny the validity of the provisions of the merger ordinance, the City having performed by permitting the merger and the Company having accepted the benefits of the ordinance, we submit that if there was any error in the action of the trial court, such error was harmless, for the following reasons:

(1) The prices of material and labor have so greatly declined since the trial, the amount fixed by the trial court is equal to the present fair value of the property, even tested by the reproduction theory. We have heretofore discussed this decline in prices, this brief page 4, to which we respectfully refer.

(2) The value of \$6,000,000.00 claimed by the Company at the time of the trial and found by the master was based largely upon the reproduction cost as of that time. (Master's Report, Record, pp. 35 and 36.) The court found that the cost of the property, as shown by the Company's books, was \$4,571,567.00 (Record p. 33), but this included \$754,000.00 loss realized on the purchase of the property of the Home Telephone Company, and not representing any property now owned by the Houston exchange. (Record pp. 70 and 71.) So then, the cost of the property used and useful in the Houston exchange was \$4,571,567.00, less \$754,000.00, or \$3,817,567.00. This was its cost new, undepreciated. It should, of course, be depreciated, for the Company collected from the public an annuity for this purpose. But treating the property as new, still the value found by the Master was an increase of considerably over 50 per cent above the cost. We submit that the Company is not entitled to be protected in such an increase, or to have such increase included in the fair value of the property.

Wilcox vs. Consolidated Gas Co., 212 U. S. 52; 53 Law Ed. 399-400.

In this case the court says:

"And we concur with the court below in holding that the value of the property is to be determined as of the time when the inquiry is made regarding the rates. If the property which legally enters into the consideration of the question of rates has increased in value since it was acquired, the company is entitled to the benefit of such increase. This is, at any rate the general rule. *We do not say there may not possibly be an exception to it where the property may have increased so enormously in value as to render a rate permitting a reasonable return upon such increased value unjust to the public.* How such facts should be treated is not a question now before us, as this case does not present it. We refer to the matter only for the purpose of stating that the decision herein does not prevent an inquiry into the question when, if ever, it should be necessarily presented." (Italic ours.)

We submit that the increase to which the utility is entitled within the meaning of this decision is the normal increase, not such an increase as is here shown, where the property has "increased so enormously in value as to render a rate permitting a reasonable return upon such increased value unjust to the public."

That the increase in the reconstruction cost of the Company's property, at the time of the trial, was the greatest known in the history of the country, is a matter of common knowledge, as is also the fact that such increase was temporary and brought about as a result of the World War.

As we have seen, the Company's property used and useful in furnishing telephone service to the people of the City of Houston was only \$3,817,567.00, undepreciated. It is admitted by the Company that the plant was in only 92 per cent physical condition (Record p. 1640), and this takes no account of accruing obsolescence. (Record p. 1640.) From this it appears that the cost of the property depreciated would not be more than \$3,500,000.00. The City's witness Lyndon placed it at \$3,000,000.00. (Record p. 1661.) But the court allowed a value of \$4,571,567.00. This sum, we

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submit, was certainly sufficient to include a normal, as distinguished from an enormous increase. We suggest that the method adopted by the court in fixing the value of the Company's property, if error at all, was harmless error in favor of the Company, of which it cannot complain, for the reason that the value so fixed is in excess of what the Company is entitled to.

### GOING CONCERN VALUE.

The Company, by its First Assignment of Error (its brief p. 125), complains of the action of the court in not adding any going concern value to the cost of the property as found by the court. There is no doubt, under the decisions, but what, under certain circumstances where it is proven, a going concern value should be allowed. It is suggested, however, that there was no error on the part of the trial court, in this case, in failing to allow going concern value. This for two reasons:

(1) The uncontroverted proof shows that, if a telephone plant was constructed in Houston at this time to take the place of the Company's plant, it would be in a city of 160,000 people, educated to the use of the telephone and where the demand for the service exceeds the supply. Under these conditions there could be no value in the plant on account of its being a going concern. A telephone plant is naturally, and therefore rightfully, a monopoly. It would clearly be an unnecessary burden upon the people to have to support two separate and distinct telephone systems. So, with the people desiring all the service that can be supplied and the right to give this service being monopolized by one concern, how can it be claimed that it has a going value? As we understand it, going concern value is made up of the advantage which one concern, that is already established, has over others that have to acquire the business.

(2) After all, it was the purpose of this hearing to determine the value of the Company's property, that is, the plant already in operation in the City of Houston, not some imaginary plant that might be constructed to replace it,

and the proof shows that the cost of acquiring the business that the Company now has, was paid for by the public in the regular course of business. (Record pp. 1535-1661-1663.) In other words, it was a part of the operating expenses that the public paid in addition to the return upon the property and the depreciation annuity. So far as we have been able to ascertain, it has never been decided that where the cost of establishing the business has been paid for by the earnings of a plant, which, in turn, were paid by the public, that the utility had a right to add to its property value the cost of establishing the business, and making it a going concern, and to exact from the public a charge sufficient to pay a return upon this addition to property value, and we submit that justice and logic operate against permitting the utility to do so.

#### **WORKING CAPITAL.**

The complaint that the court did not allow a sufficient amount for working capital is presented by the Company's Second Assignment of Error. (Its brief p. 127.) As stated by counsel for the Company, this question is simply one of amount. We think, however, that it raises a question of fact and not a question of law. We will not undertake to review the evidence which we think the record discloses fully sustains the court's findings, especially when it is taken into consideration that compensation for a considerable portion of the services rendered is paid for in advance, by which we mean to say that a great part of the service for any particular month is paid for on or before the 10th of such month. (Record p. 1272.)

#### **THE ANNUITY FOR DEPRECIATION.**

The Company under its Third Assignment of Error (Its brief p. 128) complains that the rate of 6.33 per cent should have been applied upon the value of the property in order to obtain the amount to be allowed on account of annual reserve for depreciation. The City contends that the

amount, even based upon the cost of the property, is excessive, and discusses this question in its original brief, pp. 39 and 40, to which it will add nothing here.

The appellant, City of Houston, prays, as it prayed in its original brief, that in order that justice may finally be done to the parties, the judgment, of the court below in this case, be reversed and rendered with costs.

SEWALL MYER,  
W. J. HOWARD,  
A. E. AMERMAN,  
*Solicitors for Appellant.*